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ORIGINAL ARTICLES.

THE INDUCTION OF PREMATURE LABOR IN THE BRIGHT'S DISEASE OF PREGNANCY.

Read in the Section of Practice of Medicine, Materia Medica and Physiology, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

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In reviewing my experience with Bright's disease associated with pregnancy, either as a consequence or an accidental complication, I have been led to believe it possible to formulate more precisely than has been done, the conditions under which premature labor may be induced with a view to averting the tragic termination so often met, premising also that I believe that certain lives now lost might be saved.

I would recommend the induction of premature labor with a view to saving the life of the patient, first, in cases of Bright's disease complicating pregnancy where in a previous pregnancy there has been puerperal nephritis with grave complications. Such are illustrated by the following:

Mrs. N. P. A., when pregnant at 25 years of age with her second child, first noted swelling of her feet when six months advanced. Thence dropsy spread over the entire body, including the face. During this time there were albuminuria and amaurotic symptoms. At eight months she miscarried with a dead fœtus. For two or three days after this she seemed to be doing well, when there occurred a sudden aggravation of symptoms, inexplicably ascribed by the physician in attendance to hydro-pericardium. While apparently at the worst she lay back, in a short time fell asleep and slept ten hours almost continuously. After this she began to improve, and the decided symptoms of dimness of vision which had preceded her labor and had continued, disappeared suddenly. Four hours later, however, there occurred complete paralysis of the right side, with entire loss of speech, but not of consciousness. There was also some mental hebetude. She did not speak a word for three weeks, after which she began slowly to improve in speech, and gradually to acquire the power of motion. When I was first consulted, June 26, 1885, a year had elapsed since her miscarriage. She could say almost anything by speaking slowly and she could walk half a mile without apparently dragging her foot, but there did seem to be some stiffness at the ankle. She could not open the fingers of her hand, but could close them; she could move her arm at the shoulder better than at the elbow. This history I had from her husband. I did not see the patient then or at any time. A specimen of urine, brought to me at this time, I found strictly normal.

On May 20, 1888, just about three years after I was consulted, and four years after the conception alluded to, Mrs. A. again conceived. She had the usual signs of pregnancy, and up to November 20 inclusive, being at the beginning of the seventh month, she was free from any signs of nephritis, as shown by examinations of the urine on three separate occasions.

On the 11th of December, three weeks later, her husband reported that for some time, probably a month, there had been slight swelling of the legs, and that this had rather suddenly increased on December 1, when it was noted above the shoe tops. There was also slight puffiness in the hands, while the swelling was evidently greater in the hand of the paralyzed (right) side and the leg of the sound side. A specimen of urine brought at this date contained one-fifth its bulk of albumen, some vaginal epithelium, but no tube casts. On December 17 the husband reported a decided reduction in the twenty-four hours' urine, while I found it containing one-half its bulk of albumen and numerous *hyaline tube casts*. The patient's general condition was reported about the same. A week later, December 24, at the beginning of the eighth month, while apparently quite as well as usual, Mrs. A. fell into a convulsion about 11 A.M. from which she never recovered, dying the same evening.

In this case I had advised putting off interference until some more actively dangerous symptoms presented themselves, an advice which, in the light of subsequent events, I believe to have been bad. The dangerous symptom was the lightning's flash which allowed no time for intervention. On the other hand, I think there is every reason to believe that if premature labor had been induced soon after the appearance of decided al-

buminuria the patient's life would have been saved. Under the same circumstances I should strongly advise premature labor. Observe, however, that it is in view of the fact that we had in the previous pregnancy of the same patient Bright's disease with symptoms of great gravity, and this fact I believe to be the turning-point in cases of this category.

Second. I would advise the induction of premature labor with a view to saving the life of the patient in all primiparæ in whom there is Bright's disease previous to pregnancy. So many cases of this kind have come under my notice in which death terminated a terrific scene at the first confinement that I have grown to regard the girl thus afflicted as walking to her sacrifice as she walks to the altar, and if the opportunity presents I discourage marriage in the strongest terms. Should it happen, however, that a girl thus afflicted does marry, she should never be allowed to go to term, but premature labor should be induced as soon as the fœtus is viable. I have often wondered, if the proper examination of the urine were made in every case before marriage, how many of those in whom a fatal puerperal nephritis developed would have shown albuminuria. I am inclined to believe the proportion would be surprisingly large.

Third. There remain only to be considered those cases of puerperal nephritis not included in the first and second categories, viz.: those in which we have not the knowledge gained by experience with a previous occurrence of the disease in the same patient, and those which are not primiparæ having Bright's disease previous to marriage. They include, therefore, acquired puerperal nephritis in primiparæ, acquired puerperal nephritis in multiparæ present for the first time, and acquired puerperal nephritis in multiparæ where a previous labor has been accomplished without serious results. These are in fact the cases in which it is most difficult to decide treatment, because the data determining action in the other cases are wanting. It is evident, therefore, that each case must be decided on its own merits. One fact of importance in the natural history of these cases must be emphasized as having an important bearing on the treatment, and that is that a large number of them terminate by miscarriage, and when they do so the patient is generally saved. I did not realize until recently how common this accident is, and was surprised in looking into the cases with which I have had to do to see how large a number miscarried. These cases, too, terminated favorably in every instance for the mother, but more rarely for the child. The following is a good illustration of this class: A young woman of 22, a patient in the Philadelphia Hospital, somewhat past the seventh month of pregnancy, developed uræmic symptoms. She had an albuminuria ranging from one-twentieth to one-tenth bulk. At times there were no casts in the urine, at others were found casts of several kinds, including granular, hyaline and epithelial, and even waxy and pus casts. There was undoubtedly puerperal nephritis. A consultation decided on the induction of premature labor, but pending some further study of the case by myself she miscarried, certainly when not more than seven and one-half months advanced. The child died in four days, but the woman did well. This frequency of miscarriage in puerperal nephritis I find generally attested by others.

Another very similar case was seen with Dr. Koser, of Shippensburg, Pa., and Dr. Oliver, of Philadelphia. Mrs. F., æt. 26, married about eighteen months, miscarried with her first child at about three months, and when I saw her was six months pregnant with her second child, having conceived about the 26th of April, 1888. After the first miscarriage she had a little dimness of vision in her left eye, but apparently recovered completely. In July, 1888, she returned from a summer trip with severe neuralgia and more than the usual amount of morning sickness. Early in October a trace of albumen was found in her urine. Visual symptoms presenting, she came to Philadelphia to consult Dr. Oliver, who found *retinitis albuminurica* and sent her to me. There were no other symptoms of Bright's disease, except that she had to rise once at night to pass water, although this had been her habit as far back as she could remember. Her urine contained one-twentieth its bulk of albumen, but no casts. I gave the opinion that she had puerperal nephritis, but recommended that her bowels and kidneys be kept acting, but that no more active treatment be pursued until some more urgent symptoms supervened. She returned to her home and when next I heard from her she had miscarried, November 7, when apparently six and one-half months advanced. She made a good recovery.

These two cases go to show not only the tendency to miscarriage, but also the less dangerous nature of these cases.

That this termination is not invariable and that a case may progress to full term without accident is shown by the following case, seen in consultation with Dr. Parish, of Philadelphia:

Mrs. J., always delicate, never weighed more than 100 lbs.; had diphtheria at 19, but there is no evidence to show she had nephritis before she married. Four months, however, after conception, Dr. Parish found albuminuria. On February 19 I was consulted, when the albumen equaled one-half bulk, and there were hyaline, pale granular, and epithelial casts. There was also some œdema of the face and legs. It was decided to put her to bed, to eliminate gently by saline aperients and await more serious symptoms. A few days later, however, it being supposed she was nearly at term, it was decided to induce premature labor on February 27. On going to the house

for the purpose, Dr. Parish thought he recognized some symptoms of labor, and the next morning he found labor progressing. She was confined on the morning of March 2 without other complication than extreme exhaustion, from which she was, however, desperately ill, but ultimately recovered. The child also lived. Whence too, we may infer that it is not always necessary to induce miscarriage in order to save the patient; but note that these cases belong to neither of the two divisions of the first category.

Reverting to the third category of cases, it is plain that no definite course can be laid down. Each case must be decided on its own merits. In general, however, it may be said that the supervention of uræmic symptoms demands immediate interference, but, in consequence of the variety in these and their occasional simulation by symptoms due to other causes, great care must be observed lest an error in diagnosis be made. So also a marked degree of other symptoms of Bright's disease, such as interfere with important and necessary functions, may justify interference. As a rule, too, the same symptoms are more serious in robust women than in the delicate and less hardy. It is scarcely necessary to say also that Bright's disease acquired in the first pregnancy is a much more serious complication than in a later one, and although less serious than a Bright's disease previous to marriage on which a pregnancy has supervened, labor is rarely terminated without grave symptoms, while the patient often pays the penalty of her life. Under these circumstances, therefore, when the symptoms are of a positive or dangerous character, I should also favor the induction of premature labor.

Dr. Vaughan remarked that certain women always have uræmic symptoms during pregnancy. We do not really know of what these symptoms are due, since it has been found that the urea is not a very poisonous agent. He agreed with the author that premature labor should be induced early in these cases, because if the condition has manifested itself once or twice it will surely return, and sometimes very quickly. The speaker cited a case in illustration. The patient had been pregnant several times and had convulsions in each instance. During the last pregnancy, twenty-four hours after an examination showed normal urine, albumen was found and she passed into uræmic coma. According to the speaker's opinion it is the wisest plan not to allow the women to go to full term. In primiparæ, however, we are not justified in acting so hastily. We know that the poisonous elements are formed from the proteids in the food and tissues. The speaker thought we could accomplish much with diet. Abstain from proteid food and keep up free elimination. He had in this way carried his cases safely through the dangerous period.

Dr. Atkinson thought the question should be confined to the consideration of the conditions which justify the induction of premature labor. It is just in primiparæ that we fear puerperal convulsions. According to his experience the contracted kidney is the most prolific cause of this trouble. He has had two or three cases that resulted most happily. He did not believe in one moment's delay after the mildest symptoms are manifested. Those suffering with other than the contracted kidney get along better.

Dr. Chamberlain thought it best to carry the case on until the child has become viable. We often find that a miscarriage will occur while symptoms of albuminuria are disappearing.

Dr. Carpenter had been fortunate to see the larger number of such cases recover. He coincides that the contracted kidney was the most frequent cause of puerperal convulsions. If the cases be treated vigorously and promptly, we are often able to carry mother and child safely through the dangerous period.

Dr. Wilson thought that the prophylactic measures proposed by Dr. Tyson would not likely be carried out. But in handling pregnant women the accoucheur may lay down certain rules, such as examining the urine every month, and thus be enabled to early recognize and treat the affection.

NOTES ON HOANG-NAN IN DISEASES OF THE SKIN.

Read before the Section on Dermatology, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY JOHN V. SHOEMAKER, A.M., M.D.,
OF PHILADELPHIA, PA.

Hoang-nan is the native name of a plant which has been classified as strychnos Gautheriana. It is a climber and belongs to the natural order Loganiaceæ. It rises unsupported upon a slender stem to a considerable height, when it winds around the branches of tall trees. Its stem is gray and its leaves dark green. On account of a resemblance to the convolvuli it is also known as tropical bindweed. Its specific title is in honor of the Roman Catholic missionary, M. Gauthier, by whom, in 1874, it was introduced to the notice of French physicians. Its habitat is the mountainous districts of Laos, Anam, Tonquin and Cambodia. It has been enthusiastically heralded as a remarkable remedy in leprosy, rabies, snake bite and fever. I have been engaged for some years in a study of its therapeutic virtues, and regret to say that my experience does not enable me to endorse the extravagant eulogies of some of its advocates. More recently, also, laudatory articles have appeared in the *British Medical Journal* and other periodicals, both domestic and foreign, with the tenor of which I am unable to concur. Nevertheless, the article has a wide sphere

of applicability and is a valuable addition to our resources.

Belonging to the genus strychnos its bark, which is the portion used, contains the alkaloids strychnine and brucine, the latter in larger proportion. Allied thus botanically and chemically, its medicinal action bears a close resemblance to that of strychnos nux vomica. In small doses it quickens and invigorates the heart, accelerates and deepens the respiration, stimulates secretion and, consequently, promotes the nutrition of the organism. Experiments upon frogs, rabbits and dogs show that in moderately large doses it produces clonic, succeeded by tonic convulsions. In excessive doses it causes a rapid and considerable decline of arterial pressure, powerful tetanic spasms, death occurring from respiratory failure and probably due to exhaustion of the respiratory centre. The heart continues to act, in warm-blooded animals, for a few minutes after respiration has entirely ceased.

In its home it is used in pill form made up with realgar and alum. In this country a fluid extract and a tincture have been prepared. I have usually depended upon the fluid extract, giving it in doses of from 5 to 30 drops in water three times a day. It is best given just before meals. It is promptly absorbed and is eliminated principally by the kidneys and the bowels, though I believe that the skin also assists in its removal. It increases intestinal secretion and peristalsis and has, therefore, a laxative effect. As it sharpens the appetite and improves digestion it beneficially influences nutritive processes. From among the diverse pathological states in which it may be advantageously prescribed I have selected for consideration before this Section those which concern the dermatologist.

I have adverted to its influence upon the glands of the skin. This consists in a stimulant, corroborant or alterative action upon the cutaneous glandular systems, both perspiratory and sebaceous, but more particularly the latter. By accelerating the circulation and by communicating increased tone to the muscular fibres surrounding the gland ducts it encourages healthy secretion. Accordingly, I have observed that it exerts a corrective power upon both the quantity and the quality of the secretions, increasing those fluids when they are repressed and checking them when excessive. This property which hoang-nan possesses renders it a valuable agent in the treatment of disordered secretion. I have witnessed marked improvement follow its use in seborrhœa. As this malady interferes with the growth of the hair, any measure which cuts short its progress obviates a tendency to baldness. In alopecia, likewise, hoang-nan has proved very serviceable in my hands. In hyperidrosis it is no less beneficial for the same reasons. In anidrosis it will often restore the functions of the glands, and in bromidrosis will efficiently assist the action of the local measures employed. Some obscure defect of nervous energy often lies at the foundation of these functional troubles. A substance, therefore, like hoang-nan, which combines tonic and alterative properties, is eminently calculated to prove of service. In acne its corrective influence is often able to effect very happy changes in the morbid process. It softens the sebaceous plug and favors its discharge and, in consequence, the subsidence of the resulting folliculitis or perifolliculitis. In sycosis, also, which so often depends upon obvious nutritive failures, this drug has manifested an excellent remedial quality. I have seen marked improvement take place in eczema pustulosum from the administration of hoang-nan. As this form of the disease is very prone to occur in ill-nourished subjects, a remedy which promotes constructive metamorphosis is especially indicated. Amelioration was particularly observed in cases attacking parts of the body abundantly supplied with sebaceous glands. The inflammatory process has been abridged in furunculus by the timely use of hoang-nan. I have observed good results likewise from its use in carbunculus. Individual cases of purpura differ so widely in etiology that a wise selection of curative agents is extremely desirable. I have met with success in some cases of this affection treated by means of hoang-nan to the exclusion of every other remedy, so that the improvement could be ascribed to it alone, aided only by proper dietetic and hygienic measures. I have made trial of it in erysipelas, but am unable to report any decided results. It did not appear to be as effective as iron and quinine or pilocarpin.

Leprosy is a disease which, in this part of the world, the physician is not often called upon to treat. In one case, however, which was under my care, I kept the patient upon hoang-nan continuously for three months. My experience failed to corroborate the very glowing statements which have been made as to its value in this affection. Some gain in the constitutional condition may have resulted, but I cannot say that I was able to satisfy myself that the slightest effect was produced upon the local lesions.

Speaking broadly, all conditions of the skin—and they are many—which are either produced or are attended by digestive failure, an exhausted state of the nervo-muscular system or the imperfect function of glandular organs, may be benefited by the administration of hoang-nan. In this category I would place lichen planus, lichen scrofulosus, erythema nodosum, herpes zoster, pemphigus and ecthyma.

Chronic ulcers are often very notably improved by the administration of hoang-nan. The circulation of the diseased tissue is quickened, the lymphatics stimulated, and the granulations take on healthy reparative action. While this remark applies to those ulcers which have assumed a

chronic form owing to unhygienic surroundings, filth, cold, hunger or dissipation, I have had no reason to believe that hoang-nan is at all more efficacious in open cancer than the numerous other remedies which have been tried and found wanting. But in scrofula it has yielded very excellent results. Eczema as it occurs in scrofulous children has often been improved by a resort to the subject of this paper. It is, however, in the chronic adenitis characteristic of the disorder and in the ulcers left after the complete degeneration and evacuation of glands that I have especially seen the most favorable influence exerted. In syphilitic lesions likewise I have quite often availed myself of the tonic properties of the drug with satisfaction to myself and advantage to my patients. As we all know, there are epochs in the progress of syphilis when the impoverished blood, enfeebled appetite and digestion, inactive liver and swollen spleen—in brief, profound deterioration of systemic nutrition—call imperatively for relief and suggest an addition to or even an entire suspension of routine antisyphilitic medication. The fact, as I have said, is sufficiently well recognized, and yet it appears to be too often overlooked or neglected in actual practice. Marked constitutional depression due to the disease may be observed at all stages, but is more common in the later. The initial sclerosis, however, may take on unhealthy inflammation attended by severe constitutional reaction. The stomach becomes rebellious, the digestion much enfeebled, the liver inactive, the bowels capricious. In this state of affairs the exhibition of mercury or iodine will frequently prove prejudicial. Either will aggravate the digestive distress, act as a local irritant and seem a poison rather than an antidote. The same process, manifested by the same general disturbances, may show itself in the primary adenopathy. The later cutaneous lesions of the secondary stage, the development of gummy tumors and invasion of the viscera during the tertiary period may also, not seldom, be productive of a general condition in which, for a time, specific treatment will be of no avail or even work mischief. The later exceptions, also, often occur in conjunction with a general depraved condition of fluids and solids. The scaly syphiloderm, the pustular, the ulcerated tubercle, syphilitic ecthyma, rupia, extensive ulcerations of mucous membrane; each and all of these phases may necessitate the resort to tonic measures and the partial or complete suspension of specific remedies. When, under a tonic regimen, an appetite has returned, when the stomach has regained its power, the bowels and the kidneys act with regularity, when the liver has become capable of performing its functions, the specific drugs may be resumed with advantage. It is needless to dwell upon the circumstance that these unamenable cases usually develop in such persons as have abused their vital resources by sexual excess, intemperance, continuous feverish anxiety regarding business matters, and the many other ways in which modern men "burn the candle at both ends." When it is judicious to do away with mercurials and iodides I have found much satisfaction in the employment of hoang-nan. It may be used alone or combined with iron and quinine or, if need be, cod-liver oil. This tonic treatment of syphilis is, I believe, too much neglected. I have not the slightest intention of detracting from the value and the necessity, in the vast majority of cases, of the approved mercurial or mixed plan of treatment, yet I am firmly convinced that there are times when this plan is harmful instead of beneficial, and to recognize such periods in the progress of the affection is no less necessary than to make the diagnosis that the disease is actually present. In fact, the recognition when to vary the specific by a tonic course is a sound evidence of the physician's power of discrimination.

GLANDULAR HYPERTROPHY AT THE BASE OF THE TONGUE AND ITS TREATMENT.

Read in the Section of Laryngology and Otology at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY JOHN O. ROE, M.D.,
OF ROCHESTER, N. Y.

It is not unfrequently the case that many of the minor localized affections that give rise to a variety of disturbances, are not only entirely overlooked, but remain unsuspected. This has, to a great extent, been the case with the glandular hypertrophy which is of frequent occurrence at the base of the tongue; and it is not until recently that the importance of this diseased condition has been fully recognized.

In the pharynx and naso-pharynx are found collections of mucous and lymphoid glands which are aggregated into various masses at certain points. To these masses have been given the general name of tonsils. They are, however, further specialized as follows: the collection between the pillars of the fauces is termed the "faucial tonsil;" the mass in the vault of the pharynx, the pharyngeal, or "Luschka's tonsil;" while the mass collected together at the base of the tongue is termed the "lingual tonsil."

The glands composing these various tonsils are exactly identical in their structure, and have the same functions to perform. The chief function which these glands perform is unquestionably the secretion of mucus for the purpose of keeping moist the lower pharynx.

The upper pharynx, which constitutes a portion of the respiratory passages, is covered with columnar epithelium, and is abundantly supplied with muciparous glands for the purpose of modi-

fying the air in its passage to the lungs; while the lower pharynx, which constitutes a portion of the food tract, is covered with squamous epithelium and is very scantily supplied with muciparous glands, and hence arises the necessity for a lubricant for the pharynx from another source.

In addition to the secretion of mucus, important functions are attributed to the lymphoid tissue found in these masses. These are: first, the prevention of fluid waste in the economy, by reabsorbing the buccal secretions, particularly in the intervals of deglutition; secondly, the absorption from the food bolus in its passage over them of certain nutritious elements; and thirdly, the performance of a certain office in the blood manufacturing system, acting, as Hingston Fox expresses it, "as nurseries for young leucocytes planted by the water side and drawing their sustenance from the nutrient stream." ("The Functions of the Tonsil," Jour. Anat. and Physiol., London, 1885-6, vol. xx, p. 559.)

This glandular tissue is moderately supplied with blood vessels, and it is surrounded by a network of these vessels more or less spread out over the base of the tongue.

Subject as this tissue and these blood vessels are to all the variations of the temperature of the fluid and solids that pass over them, and to the direct effect of many of these substances that tend to irritate the tissue and to cause engorgement of the blood vessels, it is not surprising that abnormal conditions of these parts are frequently found.

It is, therefore, almost invariably the case that associated with a hypertrophied condition of this glandular tissue is an abnormally distended condition of these blood-vessels. And it is the varying degrees of the distention of the blood-vessels supplying this glandular tissue and of those surrounding it, which account for the varying degrees of enlargement or projection of this glandular tissue and the different appearances that these parts present on inspection at different times. The condition of this tissue and of these blood-vessels, therefore, not only varies with the condition of local irritation, but also with plethoric conditions of the general system.

The chronic engorgement of these vessels may also be, as Mr. Lenox Browne states, "symptomatic of mitral insufficiency or of severe hepatic derangement or even of cerebral lesion."[1] The veins of this region are frequently found so much dilated as to be really varicose, and sometimes to approach a hæmorrhoidal condition. The frequent occurrence of the spitting of blood by persons having an irritable throat, is due very often to small ruptures or leakages of these distended and weakened vessels.

It is very common to find hypertrophy of the glandular tissue and enlargement of the vessels at the base of the tongue associated with a similar condition of the faucial and pharyngeal tonsils, and also with a chronic follicular pharyngitis. The symptoms of hypertrophy of the lingual tonsil in many respects resemble those produced by hypertrophy of the faucial tonsil. It has a marked interference with phonation, producing a gutteral intonation, as if an obstruction existed in the throat. In the effort to overcome this obstruction, the patient soon experiences the sensation of vocal fatigue.

The glandular hypertrophy at the base of the tongue is frequently the cause of the great variations from day to day in the singing voice, and is the reason why some singers are able to sing in a clear voice only after a period of rest. I have observed this condition to be the cause of a number of cases of vocal failure in singers, due, as has been observed by Dr. Holbrook Curtis,[2] to direct mechanical obstruction to the free opening of the epiglottis or to a reflex action exerted on the motor laryngeal nerves. The epiglottis, in these cases, is not only greatly hindered in its movements, but the irritation of its upper portion I have observed to be the cause of many cases of chronic laryngeal hyperæmia and hoarseness, and also of peculiar spasmodic and persistent coughs, as has been observed by Dr. Rice.[3]

This condition of glandular enlargement is also sometimes the cause of bronchial irritation and asthma.

The sensation experienced by the patient is that of fulness, or of a foreign body in the throat, as for example, some short substance, or a hair; some patients liken it to a rag or a piece of thread, and they are continually trying to get rid of these apparent obstructions by the effort of hawking, or swallowing.

These glands are also subject to frequent exacerbations of acute or subacute inflammation, as is the case with the faucial tonsils; and this condition is the cause of dysphagia and pain in the throat extending up the sides of the throat to the ear, as observed by Dr. Glutsmann.[4]

The condition known as "globus hystericus," frequently observed in females, was first demonstrated by Mr. Lenox Browne to be due to a condition of engorgement of these glands and blood-vessels at the base of the tongue, which may become enormously engorged by the reflex irritation of uterine or ovarian disorders. (Compte-Renau, Congress International de Laryngologia, Milan, 1880, p. 48.)

The diagnosis of these diseased conditions is very easily made by drawing the tongue forward with a napkin and inspecting the base of the tongue by the aid of the laryngeal mirror.

In the treatment of this condition we have two primary objects to be accomplished: first, the

[1] Medical News, Philadelphia, 1887, Vol. li, p. 443.

[2] New York Medical Journal, Nov. 8, 1884, Vol. xl, p. 510.
[3] The Medical Record, New York, May 1, 1886, Vol. xxix, p. 493.
[4] Medical Record, New York, Dec. 17, 1887, Vol. xxxii, p. 757.

removal of all the tissue that has become hypertrophied; and, second, the obliteration of varicosed or distended blood-vessels.

The removal of this tissue is quickly and most easily accomplished by simple abcision with a curved knife, or a pair of curved serrated scissors, cutting it down to its normal level. This operation is usually attended by very little bleeding, the tongue heals quickly, and with but little soreness. In cases in which the tissue can be readily engaged in the loop of a cold wire snare, this method of removal I have also found to be very excellent

* * *

The galvanic cautery is also very useful in cases where this enlarged tissue is much flattened and where it is unusually vascular.

Corrosive substances are also recommended, as chromic acid, nitric acid, mono-chloracetic acid, Vienna paste, fused nitrate of silver, etc. In conditions of a very moderate amount of hypertrophy, two or more applications of these stronger caustics may be sufficient to remove all the tissue desired. But when any great amount of hypertropy is present, their employment is as unadvisible as they ordinarily are in the same condition of hypertropy of the faucial tonsils, since applications of these substances have to be repeatedly made in order to produce the desired amount of destruction of tissue, and the patient is subjected to an amount of pain and discomfort that would seem almost unwarrantable when the tissue can be removed in mass by simply cutting it away.

In those cases in which it is desirable to remove the hypertrophy with the galvanic cautery, there are three methods of doing it. The first is to destroy the whole growth by burning it away with a flat cautery point from the summit downward; the second is to cut it off at the base with an ordinary cautery knife; the third method is to transfix the growth through the base, by means of a very slender cautery point.

For the destruction of the enlarged blood-vessels or varicose veins, the galvanic cautery point is the instrument to be employed, and we can accomplish the same result by no other method with so much ease and precision. A slender cautery point should be used, and this should be applied longitudinally to the trunk of the vessel to be obliterated. It is desirable in the destruction of these vessels to obliterate them as near as possible to the point where they arise; it is, however, often necessary to obliterate them at different places for the reason that they so frequently anastamose with each other.

Before attempting any of these operations, however, cocaine should be thoroughly applied. It removes the sensibility of the part, and at the same time it is a marked hæmostatic, as it also is in operations on the faucial tonsil.

Accompanying the removal of these abnormal tissues at the base of the tongue, attention should be directed to the general conditions of the system, which may have been the predisposing or exciting cause of the local disorder.

DR. J. SOLIS-COHEN objected to the term tonsil as applied to collections of lymphoid tissues other than those existing between the arches of the palate. He highly approved of the writer's method of getting rid of large masses with curved serrated scissors. In cases of slight enlargements he found solutions of creosote in carbolic acid and iodine in glycerine sufficient topical treatment. He would state that in the majority of cases seen by him, and they are counted by hundreds, he found no abnormal dilatation of the veins except in cases of very marked hypertrophies.

DR. GREEN V. WOOLEN, of Indianapolis, said: I am pleased that Dr. Cohen has called attention to the use of the term tonsil, because it relieves me from reproach for saying at my home that there is no such thing anatomically as a tonsil. When once it is known that such is the case we will be free from annoyance and opposition when we desire to remove them. My statistics show that less than 50 per cent. of diseased throats have tonsils and frequent observations show them rare in those not claiming to have diseased ones.

DR. J. ROE, after the discussion of his paper, said: If I were the author of the term tonsil, as applied to the collections of glandular tissue in the throat, I would gladly comply with Dr. Cohen's desire to have the term stricken from our nomenclature. In my paper I have simply stated that the collection of glandular tissue at the base of the tongue is sometimes called the lingual tonsil because of its identity in function and structure with the faucial tonsil. The term tonsil has doubtless been adopted because it is short and easy to use, and at the same time designates the part referred to just as clearly as the longer and more scientific term.

Regarding the statement made by Dr. Woolen, which has already been made by Dr. Bosworth, that normally there are no tonsils, that the enlargements we call tonsils are in reality abnormal conditions. This statement is in the main true. Normally the collections of glands at these points are not noticeable on inspection of the throat, and, therefore, no tonsils appear to exist. Notwithstanding this the same number of mucous and lymph glands are found in these regions as when the tissue composing these glands have become more or less hypertrophied or enlarged by disease.

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FIVE HUNDRED DELIVERIES WITHOUT DEATH IN THE PRESTON RETREAT.

Read in the Section of Obstetrics and the Diseases of Women, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.

BY JOSEPH PRICE, M.D.,
OF PHILADELPHIA.

In making this report I desire to call attention to the accommodations of the Preston Retreat, and its routine treatment of puerperal cases, rather than make a minute analysis of a large number of cases.

The 500 cases reported date from the last death occurring in the Retreat, more than five years ago, and include 275 confinements under Dr. Goodell's care before his resignation as physician in charge. The series had extended to nearly 600 cases before the first death occurred, during my service as physician in charge. Between these deaths there has not been a case of puerperal septicæmia in the institution. Both of these deaths being from puerperal eclampsia in patients suffering from chronic Bright's disease.

The Retreat is a maternity hospital endowed by the will of Dr. Jonas Preston to furnish accommodations for poor, respectable, married women during their lying-in period. The building, standing in an open square of ground, is especially adapted to its purpose. Lying-in wards are entirely shut off from the main building; the delivery rooms, the closets and bath-rooms. The bath-rooms and water-closets are placed in towers at the rear of the building. The plumbing is as nearly perfect as modern sanitary science can make it.

Verandas, enclosed in glass, form large, light, airy corridors about the sides and rear of the building, and furnish a distinct circulating atmosphere between the house proper, the wards and the water-closets.

Wide corridors run through the main building at right angles. This arrangement, together with that of the flues and heating apparatus, makes the ventilation of the entire building simply perfect. The building is heated by the indirect steam method.

The great success attending the work of this maternity is due to the strict enforcement of the law of cleanliness. Cleanliness, water, soap and pure air are still the best antiseptics. Everything and everybody is clean, and jealously kept so. The routine treatment of patients is as follows:

The patient on entering the house is given a hot soap bath, dressed in clean clothing and assigned a clean bed in the waiting ward. If necessary, a laxative is given and the bowels are kept soluble during her waiting period. Thereafter until her confinement she is obliged to take at least two hot soap baths per week and wear clean clothing. She is allowed to do such light work about the house as the physician may deem advisable and is encouraged to take as much open air exercise as circumstances will permit. Every effort is made by the officers and employés of the institution to make it as cheerful and homelike as possible. When ready for the delivery room, the patient is again given a hot soap bath, also an enema and vaginal injection of a 1 to 2,000 solution of bichloride of mercury in distilled water. She is clothed in a clean night-robe and drawers and placed upon a new, clean delivery bed. Scrupulous cleanliness is observed in all manipulations of the patient, and after delivery a second vaginal injection is given and a vaginal suppository of iodoform is introduced.

The patient's person is carefully cleaned, all soiled clothing removed, the binder and pad applied, a clean set of night clothes put on, and the patient is put in a new, clean bed in the ward. All soiled articles are immediately removed from the delivery room and a new bed made up for the next patient.

The patients in the ward are carefully observed by the nurses, but no unnecessary handling or interference permitted; they remain in the ward until they are able to be up, when they are removed to the convalescent ward. As the ward is emptied, the beds are burned and all bedding most carefully cleaned.

No soiled linen (as draw-sheets, diapers, napkins or other articles) is allowed to remain in the ward; but when soiled is immediately placed in a covered receptacle and removed from the building. No sponges, wash-rags or absorbent cotton are used in the house. Corrosive jute supplies the place of these articles, being clean, soft, remarkably absorbent and cheap. It is destroyed immediately after being used. The pads to absorb the lochia are also of jute and likewise destroyed. The beds in the ward are of fresh rye straw and are burned after ten days. All discharges from the delivery room are immediately burned; all bedding soiled beyond cleansing or contaminated by purulent or specific discharges is likewise burned. In short, every effort is made to keep the house perfectly pure and sweet.

The arrangement of the building permits of rotation in the use of the wards, so that a ward once emptied is not again used until three others have been filled. In the meantime it is most carefully cleaned and thrown open to the atmosphere. A similar system is pursued in the convalescent wards and delivery rooms.

In the 500 labors reported, there were 200 primiparous mothers. The complications were as follows: There were 52 forceps deliveries, most of them for contracted pelves and large, hard heads; 3 induced labors; 3 cases in which podalic version was performed; 2 cases of missed labor; 1 case of congenital absence of the right leg of the mother (a normal delivery); 1 case of placenta prævia; 12 still births; 3 twin labors; 5 breech presentations and 1 face presentation. Other statistics are omitted purposely.

TUBERCULOSIS OF BONES AND JOINTS.

Read before the Chicago Medical Society,

BY CHRISTIAN FENGER, M.D.,
OF CHICAGO, ILL.

History.—The tuberculosis of bones and joints form anatomically and clinically a unit, because the tuberculosis of the bones usually extends to the joints, and derives from the affections of the latter the main clinical features.

Our knowledge of this branch of tuberculosis is only twenty years old, commencing at the time when Karl Küster called attention to the frequent occurrence of miliary tubercles in the fungous granulations of the disease then known as white swelling. Soon afterwards Friedländer, Hueter, and especially Volkmann and König, not only verified Küster's statements, but carefully studied anatomically, clinically and experimentally this form of local tuberculosis. This naturally attracted the universal attention of the profession, so that an extensive literature of the subject quickly sprang up—so quickly, indeed, that even before Koch's discovery of the bacillus tuberculosis, in 1881, the tuberculosis of bones and joints was already well established as a distinct form of disease. So much was this the case that Volkmann, at the German Surgical Congress in 1885, was able to state that all cases of the hitherto so-called paidarthrocacis, spina-ventosa, tumor albus, fungous and strumous arthritis, etc., belonged to tuberculosis.

Etiology.—Tuberculosis of bones and joints is evidently always a secondary invasion; that is, the place of primary invasion of the bacillus must be elsewhere in the body, and one or more depôts must exist in the lungs or lymph glands before so deep-seated localities as the bones and joints can be invaded. When, therefore, authors speak of primary tuberculosis of the bones and joints, it is only a clinical term and means that clinical examination, or even the autopsy, fails to reveal the place of invasion, the primary depôts. As a clinical distinction its importance lies in the fact that if tuberculosis is practically localized to a joint, the patient's life is not in danger from deposits in other organs, and the total removal might prove efficient to extinguish the disease.

In this sense a primary, or, to use the more correct expression, a localized articular and osseous tuberculosis, is, according to Kümmer, found in about 40 per cent. of the cases. In the remaining 60 per cent., depôts are found at the same time in other organs of the body. The lungs come first with 25 per cent.; other joints, 10 per cent.; bones, 10 per cent.; glands, 10 per cent.; peritoneum, 3 per cent.; pleura, 2 per cent.

The presence of the bacillus of tuberculosis in a body is the *condition sine qua non*, and may be aided by other etiological elements, the most important of which is traumatism. Max Schüller proved experimentally in animals infected with tuberculosis (for instance through the respiratory tract) that a slight traumatism to a joint would determine the localization of the bacillus tuberculosis, by way of the circulation, to the place of traumatism, and that a tuberculous synovitis or panarthritis would follow.

Clinically the tuberculosis of joints has been traced in 56 per cent. of the cases to traumatism, by a direct blow to a joint, or distortion, or overexertion. It is characteristic that the traumatism is always slight; a severe trauma, causing intra-articular fracture, is very rarely followed by tuberculosis.

As a general characteristic of the articular and osseous tuberculosis it must be stated that it belongs to the benignant chronic forms of disease; that is, it lasts for years and years, has a tendency to spontaneous recovery, little tendency to generalization and, consequently, to the destruction of life, as compared with the acute forms of tuberculosis of the internal organs, or even the experimental inoculated tuberculosis.

An explanation of this clinical fact is given by Baumgarten, who distinguishes between three forms of miliary tubercles:

1. The lymphoid-celled tubercle, Virchow's small-celled tubercle, which is rich in bacilli, extremely malignant, and is found in tuberculosis miliaris acutissima, for instance in the lungs.

2. The mixed tubercle of lymphoid cells and epithelioid cells, which contains fewer bacilli, is less benignant, and is found in the more chronic forms of general miliary tuberculosis.

3. The epithelioid and giant-celled tubercle, with no lymphoid cells, containing comparatively few bacilli, more benignant, and found in the benign forms of localized tuberculosis, joints, bones, lupus and lymph glands.

That this benignancy of the tubercle can be dependent upon lessened vitality in the tubercle bacillus has been proven experimentally by the inoculation of artificially weakened cultures, which were seen to produce localized tuberculosis in the nearest lymph glands only, with no generalization (Baumgarten). Kümmer found heredity as an element in 37 per cent. of the cases.

Anatomy.—Tuberculosis has a distinct predilection for the medullary tissue of the bones; thus it is correct to speak of the tuberculous osteo-myelitis as a first effect of the arrest of bacilli in some place of the medulla. The anatomical condition of the vessels in this tissue, thin walls, slight contractility and sluggish circulation, favor the implantation on the vessel wall, in the same way as pus microbes are localized in acute osteo-myelitis.

Embolism from foci in the lungs opening into the pulmonary veins may cause a tuberculous infarction of the bone. The interesting experiments of Müller, who injected pus from a tuber-

culous abscess into the nutrient artery of the long bones of goats and rabbits, have proven that this is a possible origin of local osteo-tuberculosis.

The seat of the tuberculosis in bones is usually in the cancellous substance of the epiphysis of the long bones, the short and flat bones, and very seldom, the medulla of the shafts. The only exceptions to this are the shafts of the phalanges of the fingers and toes, and the metacarpal and metatarsal bones in children, where the tuberculous osteo-myelitis gives rise to the well-known spina-ventosa of the old authors.

The frequency of the localization in the different bones of the body is given by Schmallfuss, as follows:

Billroth.	Jaffe.	Per cent.	Schmallfuss.	Per cent.
Vertebra	Vertebra	26	Knee	23
Knee	Foot	21	Foot	19
Cranium	Hip	13	Hip	16
Face	Knee	10	Elbow	9
Hip	Hand	9	Hand	8
Sternum-Ribs	Elbow	4	Vertebra	7.5
Foot	Pelvis	3	Tibia	4
Elbow	Cranium	3	Cranium	4
Pelvis			Pelvis	3.6
Tibia and Fibula	Sternum, Clavicle and Ribs	3	Sternum, etc.	3.6
Femur	Shoulder	2	Femur	1.9
Shoulder	Femur	1	Shoulder	1.5
Humerus	Tibia	1	Ulna	1.4
Ulna	Fibula	1	Humerus	1
Radius	Humerus	1	Radius	0.7
Scapula	Scapula	0.6	Fibula	0.5
	Ulna	0.6	Patella	0.1

The gross appearances of the osteo-tuberculosis as it is found in the articular extremities of the long bones are well described by König under the three following forms: (1) The granulating focus; (2) the tubercular necrosis, and (3) the tuberculous infarct, the diffuse tuberculous osteo-myelitis.

1. *The granulating focus* is found as single or multiple, round or cylindrical cavities, from the size of a millet seed to that of a pea or hazelnut, and contains either grayish-red, soft, living granulation tissue, or, if coagulation necrosis has taken place, yellowish-gray cheesy matter or liquid tuberculous pus. Fine spicula of bone may be felt with the finger, or when smaller, seen with the microscope in the contents.

The granulation tissue contains epithelioid and giant-celled tubercles and bacilli. The wall of the cavity is either soft, when rarefying osteo-myelitis has taken place, significant of destruction and extension; or sclerotic when an osteo-plastic osteo-myelitis surrounds the focus, showing a tendency to localization and cicatrization. As little as this form of osteo-myelitis has in common with the usual form of acute osteo-myelitis due to pus microbes, with its extensive area of inflammation and large sequestra, still it may be difficult to distinguish it from the more rare form of sub-acute multiple osteo-myelitis of the epiphysis, in which multiple foci of similar form are found. But the infectious osteo-myelitis has thin yellow pus and flabby granulations without tubercles, and the pus contains pus microbes.

2. *The tubercular necrosis.* When the area of the tuberculous osteo-myelitis is larger than a hazelnut, the bone is usually not absorbed, but remains as a sequestrum in the cavity. This sequestrum is sometimes osteo-sclerotic, sometimes osteo-porotic, sometimes like the surrounding bone, according to the character of the osteo-myelitis previous to the interruption of nutrition. It is yellowish-white or grayish-red, according to the contents of the Haversian canals or medullary spaces of dead or living tuberculous tissue. It may be separated from the wall of the cavity by a layer of tuberculous granulation tissue, or dry cheesy matter, or tuberculous pus. If separated by a layer of granulation tissue, this may be so thin that the sequestrum fits the cavity exactly, and, if its shape is irregular, fits in so immovably that it takes a good deal of force to pry it out by the gouge and chisel.

3. *The tuberculous infarct* has the characteristic conical shape of infarcts in other parts of the body, with the apex in a proximal and the base in a distal direction. It represents the territory of an artery and suggests embolism. Large infarcts, then, must require either a larger embolus, or, in addition to the embolus, arterial thrombosis, from the place of arrest of the embolus. Their seat is usually a little inside of the cortical substance of the bone; thus, they may be overlooked if the bone is not sawn through. If, as in the specimen here presented, the base takes in the articular surface of the joint, this surface will be ground off and polished, signifying instantaneous death of the infarct at the time of the embolism.

The line of demarcation forms slowly as a furrow surrounding the dead area, the central portion of which may remain in connection with the living bone for a long time, a year or more, even in a joint apparently on the way to recovery.

The smallest sequestra, in the dry forms of tuberculosis with a tendency to cicatrization, may heal in or be imbedded in the non-tuberculous cicatricial tissue, remaining after the tuberculosis has come to an end and incomplete recovery taken place, without perceptibly disturbing the function.

The fate of the osteo-tuberculous foci varies according to the activity of the microbe and the size of the focus. The smaller granulation foci in the dry forms of tuberculosis may result in either complete recovery by removal of the tuberculous elements by absorption and filling up the cavity with cicatricial tissue, or in incomplete recovery, in which part of the focus is transformed into cicatricial tissue, in part of which dormant bacilli remain. These are apt to be revived under favorable circumstances, of which a fresh culture fluid from a traumatism is the only one known.

In the joints, however, this is a very common occurrence, as we shall see later on. This accounts for the local relapses so frequent in tuberculosis as to make a permanent recovery almost impossible.

Small sequestra may, as stated above, disappear by absorption, or be included in the cicatricial tissue. Large sequestra will, of course, neither be absorbed nor be included in a cicatrix. Moreover, they furnish an inexhaustible depôt of bacilli and keep up the local tuberculosis on its progressive way to further destruction.

We have hitherto considered the osteo-tuberculosis at its place of origin in the bone, where it is of comparatively little importance, since so long as it is confined to the bone it gives rise to little or no functional disturbance. We shall now follow it on its extension beyond the bone, and then distinguish between its extension to the periosteum and the soft tissues on the one hand, and to the joints on the other. It is not until the tuberculosis has extended to one of the places named, that its symptoms become manifest and the grave consequences to the patient's welfare take place.

1. *Extension to the periosteum outside of the joints.*—It is characteristic of tuberculosis that the periosteum, on the whole, is rarely affected to any great extent. We do not find, as in acute osteo-myelitis, a diffuse infiltration of the periosteum and the formation of extensive masses of bone. Tuberculosis of the periosteum is localized in the joint in the same way as in tubercular osteo-myelitis, and the place of perforation limited to a small area surrounded by normal periosteum, with little or no thickening or enlargement of the bone affected. When the dry granulating form of tuberculosis reaches the periosteum a small, soft, elastic, limited granulation tumor forms, first under the periosteum, then outside of it. It is characterized by slow growth, comparatively little pain, slight tenderness, and a tendency to remain stationary for a long time. It is different with the soft suppurating tuberculosis, which, although it also breaks through the periosteum in a limited space, acts in an entirely different way as soon as it has reached the para-periosteal loose, connective-tissue spaces. Here it has a tendency to extend rapidly and to form large abscesses, the so-called cold abscesses, traveling, like all other abscesses in connective tissues, in the direction of least resistance. On its way from the deep para-periosteal tissues out toward the skin, it forms large or small abscess cavities and finally breaks through to the surface, after having transformed the skin into tuberculous tissue, which sometimes presents the appearance of lupus at the place of perforation. No conclusion can be drawn from the size or acuteness of the abscess as to the extent of the osteo-tuberculosis. A large abscess may come from a small focus in the bone, and *vice versa*.

The question has arisen whether the rapid formation of tuberculous abscesses is not the consequence of a mixed infection from auto-infection of pus microbes. It must be said that such auto-infection is rare, as the pus in these abscesses is found on microscopical examination and culture in culture substances, not only not to contain pus microbes, but its inoculation in the camera anterior of the eye, or the abdominal cavity of animals, produces an unmixed tuberculous invasion and no suppuration.

Diffuse tuberculous osteo-myelitis.—This form is rare. On the cut surface of the bone we find large, irregular, often multiple areas and islands, with no tendency to definition, of a yellowish-white infiltration, containing small multiple foci of liquid pus. Here is no tendency to limitation or the formation of sequestra, but rather a tendency to spread indefinitely and to invade even the medullary tissue of the shafts. This form has in common with the acute diffuse osteo-myelitis that it will spread through the Haversian canals diffusely to the periosteum and cause a diffuse plastic periostitis with irregular diffuse masses of bone formed on the outside of the cortical substance. Consequently it resembles, in its clinical features, acute osteo-myelitis. Locally and generally it is a severe form: locally it forms an extensive tuberculous depôt, from which abscesses may form indefinitely; generally, patients with this form are exposed to the dangers of a fatal general tuberculosis if the whole depôt is not removed in time. In operating it is important to recognize this form, since it requires more radical measures, either amputation or very extensive excision. As a rule, the mere removal of the periosteal tuberculous masses and the diseased medullary tissue is insufficient, and the whole continuity of the bone must be taken away, as in the specimen here presented. Fortunately this form is extremely rare.

Tuberculous abscess.—In addition to what has already been stated about the tuberculous abscess I shall here briefly call attention to the main characteristics of its wall, which is formed of a thinner or thicker layer of tuberculous granulation tissue thickly studded with the characteristic miliary tubercles of the benignant type, with relatively few bacilli. This tuberculous pyogenetic membrane, as it was called by the old authors, is only very loosely connected with the surrounding tissues and organs, in the spaces between which it is located. So loose is the connection that, when the abscess is opened, the whole membrane can be wiped off the wall with a sponge, or, when more firmly attached, easily removed with a sharp spoon, leaving the walls so healthy as to readily unite by first intention when brought together; hence the modern treatment of these abscesses by incision of the whole length, removal of the wall, and reunion. In

rare instances, however, a fascia, for instance the fascia lata of the femur, may be diffusely infiltrated, even to such a degree as to cause diffuse necrosis, presenting the appearance of diffuse phlegmonous inflammation. In such cases careful removal, by the knife and scissors, of the whole area involved is required.

At this place I will call attention to the latest step in the conservative treatment of large tuberculous abscesses, especially the large psoas abscesses from tuberculosis of the vertebral column from Pott's disease. It is well known that the opening of these abscesses in præ-antiseptic times was almost always followed by a fatal septic infection from without. The modern opening and drainage under antiseptic precautions, so much praised in the beginning, has been proven not to be without danger, inasmuch as, in many cases, late infection has taken place when, after months, the inclosed fistulous openings have been guarded with less stringency in the application of antiseptic dressings.

Thus, two years ago, Bruns, in Tübingen, proposed a return to the older subcutaneous method, namely aspiration; but, in addition to this, injection into the emptied abscess cavity of a 10 per cent. iodoform emulsion in equal parts of glycerine and alcohol, this procedure to be repeated every four to six weeks. Usually, after three or four aspirations, the formation of pus in the abscess cavity ceases, the fever stops, and the patient regains health and strength. No iodoform poisoning from this treatment has yet been reported.

2. *Extension into the joints.*—The osteo-tuberculous foci in the epiphyses of the long bones are situated so near to the surface of the joint that, when they come to the surface, in an overwhelming majority of the cases, they will be inside of the articular cavity; the bacilli of tuberculosis are consequently poured into the joint, and a tuberculous synovitis or arthritis is the result.

Tuberculosis of joints is by far the most common joint disease, so much so that König states that, in the surgical clinics, the surgeon will have 100 cases of tuberculosis of the joints to deal with to one of the other classes of inflammation, such as gonorrhœal, syphilitic, septic, osteomyelitic, rheumatic, or the metastatic inflammations subsequent to acute infectious disease. Although the statement may seem to the general practitioner to be carried to the extreme, still the authority of König is sufficient warrant for the statement that tuberculosis as a cause of joint disease far exceeds all others, and that the tubercular arthritides are the everyday cases of the surgeon.

We distinguish, as to origin, between primary synovial and primary osteal tuberculosis of the joints. Max Schüller stated, as a result of experiments, that a slight injury to a joint in a person who had bacilli floating in his blood would determine localization, commonly in the form of a synovial tuberculosis. It may be said here that, as to the relative frequency of the two forms, it has been shown that the primary osteal tuberculosis occurs two or three times as often as the primary synovial. As far as the course and development of the articular tuberculosis is concerned, the difference in origin makes little or no difference—so little, indeed, that we are unable to make a differential diagnosis, even from the symptoms.

As to the primary osteal tuberculosis of the joints, we have already seen that an osteo-tuberculous infarct is located in the joint from its very beginning, while the smaller granulation foci open into the joint secondarily. When located close to the articular cartilage, this must be destroyed before the joint is invaded, the cartilage forming a barrier which may sometimes prove sufficient to resist invasion. A small dry granulation focus may heal up before perforation takes place.

When located at the surface of the joint, where the bone is not covered with articular cartilage, the thin periosteum and the serous membrane covering it are more easily opened through. An important complication is when an osteo-tuberculous focus is placed right at the insertion of the capsule of the joint. It may then open in and outside of the joint simultaneously, or the one or the other, the saving of the joint depending upon the few lines of difference. When the tubercle bacillus invades a joint and tuberculosis of the joint ensues, all the constituent parts of the joint will be successively affected, namely, the synovial membrane, para-synovial tissue, ligaments and peri-synovial tissues, the articular cartilage, and finally the articular surface of the bone.

It is a question whether so light a form of inflammation as a simple synovitis (whatever that may be), as mentioned by Kümmer, can set in as an effect of either ptomaines alone, from a near focus, or from extremely weakened tubercle bacilli. A simple serous synovitis of entirely benignant character, if it exist, is of extremely rare occurrence.

Commonly the presence of the tubercle bacillus in the joint produces one of the following forms: 1. A pannous hyperplastic synovitis. 2. A tuberous hyperplastic synovitis or papillamatous plastic synovitis. 3. A granular or fungous hyperplastic synovitis (Hueter); and, 4. The tuberculous articular empyema (König).

1. *The pannous hyperplastic synovitis (Hueter).*—The synovial membrane is moderately thickened. From the border of the cartilage a thin vascular layer of granulation tissue creeps in over the surface of the latter, so much so as to sometimes cover the larger part of the surface

and unite with the cartilage, which gradually becomes transformed into connective tissue. The tubercles are usually not visible to the naked eye.

2. The tuberous plastic synovitis, or circumscribed nodular tuberculosis of the synovial membrane.—The tubercular fibroma is characterized by the development of a subserous tumor the size of a walnut or larger, protruding into the joint and filling, for example, the supra-patellar recess of the knee-joint, with simple synovitis or pannous synovitis in the rest of the cavity. Such a local tuberculosis is amenable to extirpation of the tuberculous tumor followed by recovery. The papillomatous plastic synovitis is a diffuse form of hyperplastic tuberculosis, and, as shown in the specimen, we find the whole inner surface of the synovial membrane covered with sessile or pedunculated papillomatous growths, small and rather uniform in size, some of which may become detached and constitute the so-called rice bodies.

3. Diffuse granulating synovial tuberculosis.—Here the synovial membrane is considerably thickened, hyperæmic, with or without visible tubercles, always accompanied by invasion of the para-articular tissue and the ligaments of the joint. Thus is formed the thick œdematous mass of tissue, usually of a gelatinous appearance, in which coagulation necrosis will cause, in the more dry forms, islands of cheesy matter; in the more liquid forms, islands of pus, that is, small multiple abscesses.

Any of the above named forms of synovitis may give rise to the exudation of serous or serofibrinous fluid in the joint, the tuberculous hydrops of König. A considerable hydrops is most commonly associated with a diffuse synovial tuberculosis, with little thickening of the capsule. Less commonly it is found in the tuberous and papillomatous synovitis; most rarely in the fungous or granulating synovitis. The fluid is clear in the lighter forms; slightly milky from migratory corpuscles, or mixed with shreds of fibrin in the severer forms. So-called rice corpuscles may be found and derived either from islands of fibrin or from loosened papillomata. Their presence indicates tuberculosis (Reidel).

4. Empyema articulationis tuberculosum. Cold abscess of the joint (König).—The inside of the capsule is covered with loosely adherent tuberculous membrane similar to that in tuberculous abscesses, so loosely connected with the capsule as to permit of its being scraped off. The remaining synovial membrane is diffusely infiltrated with miliary tubercles, but only slightly thickened, if at all, because of the non-invasion of the para-synovial tissues.

The articular cartilage plays, as a rule, only a passive part in tuberculosis of the joint, as its fate is destruction or absorption. The cartilage covering a large sequestrum dies off and is mechanically detached from the bone in smaller or larger pieces. An osteo-tuberculous focus, when reaching the cartilage, will cause gradual local absorption, and a local, usually round defect, through which red granulation tissue or cheesy matter protrudes. The surrounding cartilage may be entirely normal and efficient for the function of the joint. A primary synovial tuberculosis has a tendency to develop most intensely in the region of the capsule at the circumference of the articular cartilage. From here it has an easier way down into the vascular bone than into the non-vascular cartilage, and extends down between the bone and the cartilage as a tuberculous osteo-myelitis, creating a layer of tuberculous granulation tissue that will detach the cartilage from the bone. Local hyperplastic foci in this granulation tissue may perforate the cartilage in many places, just the same as a primary osteo-tuberculous focus, so that the cartilage presents the appearance of a sieve. Finally either the whole cartilage or shreds of it are found loose in the cavity of the joint.

In the pannous synovitis and the dry forms of fungous synovitis an apparently direct transformation of cartilage into connective tissue takes place.

The articular surfaces of the bone, after the disappearance of the cartilage, present the following appearance: In the dry form, a layer of not very vascular connective tissue covers the surface and connects it with the opposite similarly transformed surface. In the more moist and suppurating forms, a layer of miliary tuberculous tissue covers the bone with visible, yellow miliary tubercles, extending usually only a short distance down from the surface. Thus the whole head of the femur, the acetabulum, etc., is gradually destroyed.

SYMPTOMS.

I. *Tuberculous Hydrops*, as we have stated, is common in the diffuse synovial tuberculosis with little swelling of the capsule, also in the papillomatous diffuse synovitis or local tuberous synovitis, but is seldom found in the granulating fungous synovitis. It is characterized by the usual symptoms of a painless intra-articular accumulation of fluid which usually reaccumulates when removed, and sooner or later, the tuberculosis going on, shows some thickening of the capsule after removal of the fluid.

The prognosis is relatively good because there is little tendency to destruction of the joint or to suppuration. Some cases recover after puncture and rest. Rice bodies, when present, can be felt to give a peculiar friction sound when moved from one point of the joint to another. The joint remains for a long time in relatively good function which only ceases when, later on, thickening of the capsule and destruction of the joint sets in.

A tubercular fibroma can be felt after the aspiration of the joint as a sessile, more or less movable tumor, simulating floating cartilage. Simple arthrotomy and extirpation may prove effectual. The tuberculous hydrops is never accompanied by fever. As above stated, the lighter forms may recover by aspiration and immobilization. More obstinate forms require opening of the joint, excision of the local tumors if found, a partial excision of portions of the capsule with iodoformization and drainage. König has opened the knee-joint on both sides of the patella, excised large slices of the capsule, and seen perfect recovery. However, the result is always uncertain, and the tuberculosis may in spite of initial, more conservative treatment, go on to the severe and more destructive forms, and require more radical operative measures.

II. *Fungous Arthritis, Granulating Synovial Tuberculosis, White Swelling, Tumor Albus.* This is by far the most common form of tuberculosis of the joints, whether primary osteal or primary synovial. No symptoms enable us to make a distinct diagnosis between a primary osteal and a primary synovial tuberculosis of the joint, but as we stated in the discussion of tuberculosis of the bones, the primary osteal form is the most common. In the knee, the proportion of the primary osteal to the primary synovial form is as three to one; in the hip, four to one; in the elbow, four to one (König). As to age, the proportion is in children below 15, two to one; above 15, three to one. If it were possible to know that a large osteo-tuberculous focus was to be found in a given case of articular tuberculosis, this knowledge would determine an immediate operation, and no time would be lost by conservative treatment. But unfortunately, as yet the diagnosis is almost impossible.

The fungous arthritis is much more more frequent in the lower than in the upper extremities. According to Albrecht, out of 325 cases, of which he gives the statistics, 91 were found in the joints of the upper extremity, and 234 in those of the lower extremity. The granulating synovitis or fungous arthritis presents a great variety of clinical forms, according to the acuteness of the onset and the course; slowness or rapidity of destruction, and extent of the infiltration of the synovial tissues. It is especially the degree of peri-articular infiltration, its almost entire absence, or presence, in abundance, that makes the clinical distinction between the dry and soft forms so characteristic that Volkmann has called attention to the former as a distinct class of cases.

1. *The dry granulating tuberculosis, the atrophic form, plastic synovitis) Kümmer), caries sicca of Volkmann*, so common in the shoulder-joint is characterized by the tendency of the tuberculous tissue to cicatrization, and slight tendency to extensive destruction of cartilage and bone. Absence of invasion of para-articular tissues results in only a slight or in no swelling in the region of the joint, which may even be found atrophic, as in the shoulder-joint from atrophy of the muscles, or in the hip-joint in young individuals (König); more rarely in the knee. In the shoulder-joint there may be considerable atrophy, and still so much mobility that the disease may simulate a neurosis resulting in atrophy of the muscles of the joint. A careful examination *in narcosis*, revealing restriction of mobility from cicatricial contraction of the tuberculous capsule, will enable us to make an early diagnosis, which is confirmed later on when peri-articular abscesses form. In a majority of cases, however, this form has a tendency to come to an end without the formation of abscesses, terminating simply in a more or less restricted mobility of the joint. Dry caries of the shoulder-joint is found not infrequently in young women (König).

2. *Fungous arthritis, tumor albus, synovitis fungosa sive granulosa*, is probably the most common of all the forms of articular tuberculosis. It is characterized by the softer condition of the tuberculous granulation tissue, with tendency to destructive invasion of all the elements of the joint, coagulation necrosis and liquefaction. The invasion of the para-articular tissues causes considerable swelling in the region of the joint, giving to the latter the characteristic spindle-shape so frequently found in the knee, elbow and ankle-joints; the swelling being so much the more apparent when atrophy of the muscles above and below has taken place. Extension of the infiltration from the para-articular tissues out towards the subcutaneous tissues finally causes the swollen joint to be covered with a whitish, immovable, dense skin, giving the joint the appearance from which the time-honored name of white swelling is derived. In the beginning of the disease a slight degree of hydrops is found in a few cases; most often the cavity of the joint contains no fluid, or not a sufficient amount to be recognized by palpation. Later in the disease liquefaction in the islands of coagulation necrosis in the islands of soft granulation tissue gives rise to the presence of tuberculous pus. This may be found as small foci in the soft granulating capsule, small abscesses inside of the granulation tissue, or as pus from the cavity of the joint. At this stage of the disease, especially in the softer form of tuberculosis, the peri-articular abscess is formed. Most commonly a local destruction of the tuberculous capsule facilitates the invasion of the peri-articular inter-muscular spaces by the tuberculous pus already contained in the joint; and a more or less rapid increase in size of the abscess cavity in the direction of least resistance, causes the formation of more or less distant ab-

scess cavities, which of course, always lead into the cavity of the joint. More rarely, peri-articular abscesses form directly from an osteal focus by the extension of a mass of tuberculous granulation tissue, extending through the capsule out into the peri-articular tissue, as a primary mass of solid granulation tissue in which liquefaction takes place secondarily. A peri-articular abscess originating in this way may attain the same size as that previously mentioned, but owing to its original form a local osteo-tuberculous focus is of less prognostic importance, inasmuch as it does not necessarily indicate suppurative destruction of the cavity of the joint. This latter form of abscess may be opened and evacuated and may then close up with or without the removal of the osteo-tuberculous focus and still leave the joint in a more or less unimpaired condition; while on the other hand, the peri-articular abscess communicating directly with the destroyed joint cavity has no tendency to come to a close, but leaves fistulous openings which keep open permanently, and only too often, when not protected by antiseptic dressings, sooner or later, furnish a place of invasion for pus microbes, adding acute suppuration or sepsis to the tuberculosis, and giving rise to a rapid increase in the destruction of the articular surface.

A fungous arthritis, when limited to a single joint, will rarely cause any rise in temperature. High temperature is always indicative of a mixed infection with pus microbes, or what is very rarely met with, general acute tuberculosis. By far the most common is the mixed infection which comes from without, the pus microbes entering the open and unprotected peri-articular abscess. It is very exceptional that auto-infection, that is, invasion of a closed tuberculous joint by floating pus microbes from a distant place of invasion, takes place. A slight rise in temperature, remittent or intermittent, however, commonly accompanies the formation of tubercular peri-articular abscesses. A temperature of 100° to 101° in the evening with normal morning temperature is indicative of this complication, and this, as first pointed out by König, is an important diagnostic symptom.

Contractions, lateral deviations or other abnormal positions of the articular surfaces, usually signify destruction of the articular ligaments and articular surfaces. They are thus not seen in the articular hydrops, or the lighter forms of synovial tuberculosis, while we find them in tumor albus, or the destructive forms of para-arthritis. König very properly uses the term "destructions-contractur" (contraction by destruction), for these displacements, in preference to the usual term of spontaneous dislocations, and employs the latter expression to signify the condition when through muscular contraction or a slight injury to the joint, whose strengthening ligaments are destroyed, a sudden, very painful and often considerable displacement takes place. This is especially common in the hip-joint. The clinical importance of any of these displacements lies in the fact that they signify a certain amount of destruction of the joint, thus often indicating surgical interference.

Pain as a symptom accompanying tuberculosis of the joint, although always present, is of extremely variable intensity; two patients with an apparently similar degree or form of tuberculosis in the knee-joint may differ so much as far as pain is concerned that the one may be able to walk almost without pain, while in the other, the slightest movement will cause intense suffering. Although the intensity of the pain does not give any absolutely certain information as to the extent of destruction of the joint, it may be said that in general, the more acute destructive forms of tuberculosis are the more painful, and further, that intense pain on movement may mean large intra-articular osteal foci, and extensive intra-articular destruction; while slight pain would indicate that the articular cartilage was as yet comparatively intact. A sudden attack of intense pain sometimes means that perforation of an osteal focus into the yet intact joint cavity has taken place. It is of more practical importance when we find a local painful spot on the articular extremity of the bone, especially when it is outside of the usual line of the swollen and tender capsule. Inasmuch as this may indicate an osteal focus if the tender spot shows some localized softness or swelling, it is of even more significance in this direction, and indicates a local operation which may save an as yet comparatively intact joint.

3. Cold Abscess, the Pyarthrous Tuberculosis, is rare. Its most typical form is found in diffuse miliary tuberculosis, and a less typical form, that is, less fluid in the joint, in the soft forms of granulating tuberculosis. The onset is usually acute, often with considerable pain accompanied by fever, so as even to simulate suppurative synovitis. There is a tendency to destruction of the capsule and the early formation of large peri-articular and inter-muscular abscesses. The symptoms of general acute tuberculosis are likely to set in sooner or later.

DIAGNOSIS.

As a rule there is no difficulty in the diagnosis of tuberculosis of the joints when the history, course and symptoms of the disease are taken into consideration, as above stated; but, as König justly remarks, it is well to remember that an articular tuberculosis even of the large joints, is practically a local disease, and has for a long time little or no influence on the general health of the patient. Thus we may find patients apparently strong and healthy-looking suffering from articular tuberculosis.

The hydrops tuberculosis is distinguished from a "common articular hydrops," whatever that may mean, traumatic, for instance, by its persistency and tendency to relapse as soon as the joint is put to use again. Flocculi of fibrin or rice bodies indicate tuberculosis.

The tubercular fibromas might be mistaken for lipoma arborescens or gummata. The diagnosis of the latter will be cleared up by anti-specific treatment, which should always be tried in cases of doubt.

Cold abscess is distinguished from the suppurating synovitis by less pain, some swelling of the capsule, and the frequent presence of tuberculosis in other organs.

The fungous synovitis or pan-arthritis rarely causes any difficulties in diagnosis. The elastic swelling, comparatively painless abscesses or fistulous openings with fungous granulation tissue protruding are characteristic. It can be distinguished from acute multiple osteo-myelitis of the articular surfaces by its slow and comparatively painless onset, and the slight tendency to anchylosis as compared with the latter.

The caries sicca of Volkmann, or dry cicatricial atrophic tuberculosis, especially as found in the shoulder-joint, might be mistaken for a neurosis with atrophy of the muscles covering the joint. An examination *in narcosis* will reveal some loss of mobility in the tuberculosis as compared with the absolutely free mobility in neurosis. Exact measurement may reveal some shortening, that is, articular destruction in the tuberculosis.

PROGNOSIS.

It is almost impossible in any given case of articular tuberculosis to state the future fate of the joint, inasmuch as the course of the tuberculosis is in the highest degree atypical. König states that all forms and cases of tuberculosis of bones and joints are capable of spontaneous recovery with more or less loss of function; but it may be stated as a general rule that the softer and more acute the tuberculosis, the larger the osteal foci, the earlier the suppuration and the less careful the early treatment, the more grave is the prognosis. An apparent recovery is always uncertain as to its duration, inasmuch as relapse or rekindling of the tuberculosis is likely to take place at any time. The articular tuberculosis usually extends over many years, especially the fungous pan-arthritis. The caries sicca may, according to König, come to an end in two or three years with some loss of mobility. Lighter forms of synovial tuberculosis or articular hydrops may disappear by proper treatment in a much shorter time.

As to the question when it can be said that recovery or disappearance of the tuberculosis has taken place, we may be guided by complete disappearance of the pain and swelling, and by the painlessness of what mobility has been left in the joint. As has been stated before, complete anchylosis is rare, but when it takes place it gives this advantage, that the pain disappears, even when the tuberculous foci are left in the capsule or the bones.

As to the prognosis in different ages, it may be said in general that children will more easily recover even from a severe articular tuberculosis than adults—a fact that permits of more extensive conservatism in the treatment of tuberculosis in early age. This is an important fact, as the articular ends, as is well known, play an important part in the growth of the extremities, and destructive operations in children are apt to leave useless limbs from lack of growth.

The danger to life from articular tuberculosis presents the following points for consideration:

1. Sepsis, a secondary invasion of the pus microbes into the joint and peri-articular abscesses, is not uncommon. The pus microbes invade, not by auto-infection, but through careless or rather non-antiseptic treatment of spontaneous or artificial openings leading to peri-articular abscesses. It may thus be said that although practically this complication is not an uncommon one, it can be prevented by careful, systematic, antiseptic treatment. The difficulty is that the fistulous openings into tuberculous joints remain open for months and years, attendants and patients grow careless in course of time, and late septic invasion takes place.

2. General tuberculosis, acute or chronic, is much more grave, since it is impossible to prevent it. In the course of years a number of patients succumb to this complication. Billroth states that in sixteen years 27 per cent. were lost in this way. König, from a table of 117 operations for tuberculosis, found that after four years 16 per cent. had died from general tuberculosis.

3. It has recently been pointed out by various authors, especially König, Wartmann, and Albrecht that operations on tuberculous joints may cause immediate infection, the so-called operation tuberculosis. This complication is not very common; König in his extensive experience has seen only sixteen cases, and Wartmann, from a collection of excisions amounting to 837 cases with 225 deaths, found only twenty-six cases of operation tuberculosis. It sets in, as König describes it, seven to ten days after an operation, which may be aseptic and heal by first intention, either as acute tuberculosis of the lungs or tubercular meningitis, terminating in death three to four weeks after the operation. Sometimes in cases where the operation is followed by suppuration and secondary operations become necessary, it follows these.

4. A number of patients in the course of years succumb to amyloid degeneration of the spleen, the liver and especially the kidneys, with

its accompanying dropsy, which takes away some of the survivors.

I shall say nothing as to the treatment of the articular tuberculosis, inasmuch as this question belongs to special surgery, and would be altogether too extensive to be taken up in the time allotted by this Society to the discussion of the question of tuberculosis.

However, before leaving the field of tuberculosis I want to call the attention of the Society to a comparatively rare localization of the tubercle bacillus, and to an affection that has only been recently recognized as such, namely,

TENDON TUBERCULOSIS.

Tendon tuberculosis is a necessary appendix of tuberculosis of the joints. I do not mean tuberculosis of the tendons where the tuberculosis creeps out along the tendons from a tuberculous joint, as you find it around the tendo Achillis from the ankle joint, or the flexor tendons of the arm from a tuberculous wrist-joint; but I mean primary tendon tuberculosis, which is on an equal footing with any other primary synovial tuberculosis. The subject of tendon tuberculosis is a new one. French authors more than thirty years ago called attention to a so-called fungous tendon synovitis, describing it, as far as gross appearances go, very well, but of course they did not come to an understanding about its pathology any more than about that of the so-called synovitis of the joints. Nothing was done until 1875 when Volkmann[1] gave a masterly description of the tendon tuberculosis, but without recognizing it as a tuberculosis. Then came Riedel, König's assistant, who showed that the rice bodies so commonly found in the so-called fibrinous hydrops of the tendon sheaths, or hygromas of the flexor tendons of the hand always indicate a synovial tuberculosis.

I wish only to say a few words about the pathology of this form of tuberculosis, because as far as it needs treatment, it is a synovial tuberculosis—a fungous synovitis. It is a tuberculosis with an enormous development of tuberculous tissue in the sheath of the tendon and on the tendon itself. In the sheath of the tendon it forms a layer of from one to four lines in thickness, of the usual well-known gelatinous tuberculous tissue. On the tendon it forms a similar layer usually smaller and with that important anatomical feature that this granulation tissue creeps down between the bundles of the tendon and separates them until finally it makes a perfect brush out of them; then atrophy of these separate bundles of the tendon takes place and the tendon ruptures—a spontaneous rupture in the same sense as a spontaneous fracture, that is, that with a very slight movement the tendon tears. If left alone this tendon tuberculosis has the same fate as tuberculosis of the same character in other parts of the body; it goes on to liquefaction of the tubercles and the surrounding tissue, and pus, if we may so call it, tuberculous pus without the pus microbes, forms. This abscess is opened or breaks spontaneously, leaving tuberculous fistulæ with no tendency to heal, just the same as fistulæ leading into tuberculous joints. The same fate, as with all other tuberculous tissue, will be the result of the opening, namely, that if septic invasion from without takes place, that is, if the tuberculosis is not removed at that time, or antiseptic precautions taken, then sepsis sets in and finds a congenial soil in the tuberculous tissue, an excellent culture soil for the common pus microbe; just the same as in tuberculous abscess from Pott's disease, or tuberculosis of the vertebral column, in which the opening is, in the large majority of cases, the beginning of the end. Tendon tuberculosis most commonly attacks the flexor tendons of the hand; then we have the so-called hygroma of the hand with its swelling in the palm and above. These are undoubtedly always tuberculous; further we find isolated tendon tuberculosis in the extensor tendons of the hand, more rarely in the tendons of the lower extremity, as the patellar ligaments, of which I have seen one case.

I wish to present a patient to-night who has kindly consented to come down and show his hand. The history is as follows:

John Harrington, laborer, aged 35. Family history good. The present trouble commenced about three years ago when the patient noticed a slight painless swelling on the dorsum of his hand. A watery fluid collected which was removed but collected again; the increased swelling gave rise to severe pain and inability to flex the fingers. After a few months the swelling broke spontaneously, and there was a sero-purulent discharge. This discharge continued for about two years, the swelling increasing slightly, until October 27, 1888, when the patient came to my clinic at the College of Physicians and Surgeons.

Examination revealed a swelling about five inches long in the median line of the dorsum of the hand extending from about one and one-half inches from the metacarpo-phalangeal articulation to beyond the wrist-joint.

Diagnosis: Tendon tuberculosis of the extensor tendons of the hand. An incision was made extending from within half an inch of the metacarpo-phalangeal articulation, seven inches up the forearm in the median line, over the swelling. The incision was made down to the muscles and tendons and a quantity of rice bodies removed; these were also found inclosed in the sheaths of each of the tendons when opened. The sheaths of the extensor tendons were removed and each and every tendon was thoroughly scraped to re-

[1] Beiträge zur Chirurgie.

move the tuberculous material. The extensor tendon of the thumb was divided, it being impossible to separate the tuberculous tissue without this. The tendon was united to one of the other extensor tendons. The integument was sutured with silk and the hand and forearm dressed antiseptically. One week after the operation the wound had united, and the sutures were removed and the hand dressed. Two weeks after the operation there was good union. Four weeks after the operation flexion and extension of the fingers was regained. There was no sign of return of the disease.

When this man came for operation, one of the tendons, the short extensor of the thumb, was destroyed; the others could be separated from the tuberculous tissue. This dissection of the tendons from the tuberculous tissue takes a long time. It has to be done with the utmost care because the tuberculous tissue that runs down between the fibres of the tendons is adherent; there is no short way of rubbing it off the tendons, it must be dissected off carefully, particle by particle, and then the whole sheath of the tendon dissected off with scissors and forceps, just as carefully as in the joints, particle by particle, and this law holds good in all operations for tuberculosis. Then come the difficulties of dressing. It has been found that in dressing with drainage tubes, antiseptic washes, etc., the results are not as good as if the wound is left to heal by the organization of an aseptic clot, as Lister called it. But this healing without drainage implies that the wound shall be filled with blood. No exact union of the wound is made, but a couple of spaces are left between the sutures so that the surface blood can get out. Schede recommends this method, having found that the connective tissue formed in the nidus of the clot was more pliant than the connective tissue formed when there was drainage. That method was used in this case, and the consequence is that much more extension than before is possible. This patient also shows a tuberculosis of a metacarpo-phalangeal joint.

The prognosis as to the future functions of the tendons depends upon perfect asepsis (if there is not perfect asepsis then the result is lost); suppuration must not take place after the operation. It further makes a great difference as to the future function of the hand whether the tuberculosis is on the dorsal or on the palmar side. On the palmar side of the hand where we have to open from the palm up to the middle of the forearm, the palmar ligament may be divided and reunited with sutures, and it may be necessary to to do this so as to dissect out the wall of the common tendon sheath. Tuberculosis in the palm of the hand gives much less satisfactory results after operation for removal of the tuberculous sheath from the tendon, than on the dorsal side of the hand. Another point is that when the tuberculosis has reached the upper end of the tendons it creeps up the muscles not only in the loose connective tissue, but up between the bundles of the muscular fibers. This we can recognize with the naked eye by the color and consistency of the muscle. The invaded muscle becomes hard and grayish and is not shining as the normal muscle tissue. Of course all this tissue has to be cut away carefully, because it is one of the modern improvements of our technique in operating for tuberculosis that every part of the diseased tissue is carefully removed from the joints by scissors and forceps, so as to leave, if possible, no tuberculous tissue at all. This makes a very different operation from the one where the bones are sawed off from the joints, for instance, and the abscess drained, no care being taken either of the walls of the abscess or the cartilage, the consequence being that the tuberculosis very often grows right out again and there is greater liability to sepsis setting in. These operations are long and tedious, but if perfect asepsis is secured we may expect the results to be locally permanent. Tendon tuberculosis is a rare disease; it exists only in 1 or 2 per cent. of the cases in the statistics of tuberculosis.

MEDICAL PROGRESS.

INTUSSUSCEPTION AND THE USE OF INJECTIONS.—(By W. E. FOREST, M.D., of New York.) In the *Medical Record* for August 3, is reported a case of intussusception in a child relieved by the use of sulphuretted hydrogen gas from a Bergeon apparatus. It is stated that this is the first case, as far as known, where the Bergeon apparatus has been used for this purpose in this State.

However admirable this method may be in the treatment of the condition in question, if another method can be shown to be as effective and more safe, more simple, and more scientific, the former should give way to the latter.

Without further introduction, I will suggest to Dr. Rodenhurst and the profession in general, a method that will meet the requirements mentioned.

In using injections of either gas or liquid to overcome intestinal obstruction, one ought, if possible, to know two things, namely: 1. How much force (approximately) the intestine will stand without danger of rupture. 2. How much force one is using at any moment in giving the injection.

As to the first point, a series of experiments made by me and detailed in a paper read before the New York Academy of Medicine, and published in the *Journal of Obstetrics* in 1886, would seem to show

that it is not safe to use an injection with a pressure exceeding fifteen pounds to the square inch in a case of intussusception, and this only in adults. In infants the pressure should not exceed six or eight pounds to the square inch (see *Journal of Obstetrics.*)

Now, with the Bergeon apparatus a greater pressure than the above might be used, I suppose. With the Davison syringe I have shown that a pressure of from thirty to seventy pounds to the square inch may be exerted on the intestine, and hence a very dangerous pressure.

The objection to the Bergeon apparatus, aside from the fact that one cannot measure and regulate the pressure accurately, is its cost and cumbersomeness as compared with the apparatus I have suggested in the article referred to.

In order to measure the pressure used in an injection, it is only necessary to remember that one atmosphere, or fifteen pounds to the square inch, supports a column of water thirty-three feet high; hence a column of water thirty-three feet high will make a pressure of fifteen pounds upon every square inch of surface at the base of the column.

Now, if this column of water be held in a rubber tube of ordinary size, after allowing for friction of the water in the tube, it will be accurate enough to say that every two feet of the column represents a pressure of one pound to the square inch; hence a rubber tube six feet long, filled with water and held vertical, will cause a pressure of three pounds to the square inch at its base; and a tube twelve feet long will exert a pressure of six pounds to the square inch at its base; and so on.

Now, apply this principle to a case of intussusception in a child, for instance. The surgeon, instead of sending to the nearest city for a consultant and a Bergeon apparatus, goes to the drug store or hardware store and gets a rubber tube twelve to twenty feet in length. Into one end is inserted a funnel; into the other a nozzle of a Davison syringe. In order that the injected fluid may be retained, a shoulder may be made on the nozzle about one inch from the end, by winding a roller-bandage around. This shoulder will retain every drop of the injection when pressed against the sphincter. Now a pitcher of warm salt-water completes the apparatus, and the father of the child is the assistant surgeon. The patient is taken into the hallway of the house, so that the requisite elevation may be gained, the child is etherized, the surgeon inserts the nozzle of the syringe and holds it in the rectum with one hand, while with the other he manipulates the walls of the child's abdomen. The assistant pours the water into the funnel and slowly raises it, mounting the stairs at the time if necessary. When the funnel has been raised twelve feet above the level of the child's body, great care should be exercised, as the pressure is now about six pounds on every square inch of colon below the obstruction. It is seldom that a greater pressure than this will be needed to reduce a recent invagination. The pressure should be increased very slowly, as time is an important element in reducing an invagination.

If in any case the pressure mentioned above does not bring about the end aimed at, the pressure may be increased up to ten pounds to the square inch.

For further details as to the method and when to employ it, as well as for a simple and cheap method for generating gas and its use in reducing an intussusception, I must refer to the article in the *American Journal of Obstetrics* for 1886.

In that article are the histories of two cases of intussusception successfully reduced by gaseous and fluid enemata introduced from a syphon of Vichy water.

Since publishing the method for the use of a column of water, Dr. A. S. Hunter, of this city, has used the method successfully in a case of invagination in a child.—*Medical Record.*

MEDICAL TREATMENT OF THE INTESTINES.—In concluding an article on the subject of intestinal obstruction (*Medical Press*) Prof. H. NOTHNAGEL says:

"I may briefly state in one sentence all the treatment I can recommend as an hospital consultant: Absolute abstinence from food; induce the peristaltic action from below; still it from above; and above all, avoid purgative medicines. Further I know of nothing to add for the guidance of others.

"As regards other methods of treatment, very little can be said, but there are one or two forms of recent origin which I cannot pass without a remark. Washing out the stomach was introduced by Kussmaul as a remedy, but past experience of this form of treatment has nothing particular to commend itself, and has been of very little use. One advantage in using it is that it is a harmless application, and there is not any danger attending its use. The clyster I can always recommend as a most effectual remedy in all forms of fæcal accumulations, but it is not suitable for fæcal vomiting where there are inflammatory conditions. The object of a large clyster is to break up large fæcal masses, but this is to be avoided where there is a tender bowel. Electricity is another remedy which has come into recent favor, and is not without merit. When using this agent it is recommended that both poles be placed over the tender or painful part of the bowel, or one pole introduced into the bowel. The successful cases from this treatment are so few that no opinion can be vouchsafed. There are other drugs, like belladonna, nicotine, and others that might be named, but there is one regularly prescribed drug

that might be noticed. There was a time when every stoppage of the bowel must be drugged with mercury, but the greater number of the observers of this treatment have spoken very adversely of it. No doubt an individual case has arisen where success may be attributed to the drug, but these are very few, and leave us in grave doubt when it should be used at all. If the tradition of this drug tempts you to its use in any form of vomiting, I beg to consign it to your charge with care, and trust that you will carefully use your own judgment in applying the drug where the least danger exists. In concluding my observations on the medical treatment of the bowel, I felt it my duty to say that the most severe cases that we meet in our daily practice are frequently beyond the reach of our medicines, when arising from locking of the bowel, and properly belong to the region of operative surgery for their relief."—*The Canada Lancet.*

A CASE OF ABDOMINAL GESTATION.—DR. H. KREUTZMANN, of San Francisco, reports a case of this description with the following interesting details: The patient, æt. 37 years, had borne two children and had twice miscarried. In February, 1888, she believed herself to be again pregnant. The last menstruation was on January 20. Two months later she had a hæmorrhage from the genitals—this was regarded as a miscarriage. From that time a sero-sanguinolent discharge took place, and repeatedly during the next two months fleshy masses were removed from the vagina. In the meantime the usual signs of pregnancy were apparent, in addition to which there was acute acute abdominal pain. Later on fœtal movements occasioned great pain. There was much vomiting. At about the period of her expected confinement she experienced excruciating pain of a bearing down character, then the pains suddenly ceased. Attempts were made to deliver the woman *per vias naturales*. From this time on the patient's condition became much worse and she sank rapidly from fever and exhaustion. The patient was first seen by the reporter November 26, at which time she was extremely feeble; pulse 120, temp. 102°; abdomen very tense and tender. An examination under anæsthesia revealed a tumor filling lower abdomen and reaching as far as the umbilicus, above which there was tympanites. The os externum was slightly dilated and the posterior cul-de-sac was filled with a hard mass. The os uteri was then dilated by instruments and the cavum uteri found empty. Corpus uteri was palpable. Extra-uterine pregnancy was diagnosticated. Seven weeks after death of the fœtus laparotomy was performed by Dr. Fred Hund. Upon opening the peritoneum there was an escape of fetid fluid and gas. A full grown macerated fœtus was extracted. The ovisac was everywhere adherent. The posterior cul-de-sac was occupied by the placenta, which was left *in situ*. The patient did well at first but finally died of inanition on the seventeenth day. The autopsy revealed extensive adhesions of the ovisac to the intestines. Death was due to ichoræmia. The reporter believes that in every case of extra-uterine pregnancy up to sixth month laparotomy should at once be resorted to—the same holding good in all cases, regardless of time, where the fœtus is dead. Cases which have reached the sixth month, with the fœtus living, and which are distinctly abdominal ones, should be operated upon at term to recover a living child. The aim should be to remove the entire ovisac and its contents at once.—*Pacific Med. Jour.*, September, 1889.

TUBERCULOSIS OF THE SACRO-ILIAC JOINT.—DR. LUDWIG HEKTOEN, of Chicago, gives a very complete and interesting account of such a case, together with a complete and careful analysis of the post-mortem findings. He also gives brief reports of five other recent cases of similar character, one of which is notable as being the sole authentic instance on record of a primary synovial tuberculosis of the sacro-iliac joint. Incorporating these cases with the 55 collected by Van Hook he gives the following tabulated exhibit of the locality of the abscesses in the entire group:

- Extra-pelvic, 25, or 41 per cent.
  - Pointing posteriorly, 20 abscesses (*i. e.*, immediately over the joint.
  - Dissecting upward (pointing in gluteal region), 2 abscesses.
  - Dissecting downward (pointing in gluteal region), 3 abscesses.
- Intra-pelvic, 36, or 59 per ct.
  - Dissecting upward to lumbar reg'n, 5 abscesses.
    - Under periosteum, 1 abscess.
    - Under the ileo-psoas.
      - Without finishing exit anteriorly, 7 abscesses.
      - Toward insertion of the ileo-psoas, 11 abscesses.
  - Dissecting outw'rd and forward.
  - Dissecting directly downward.
    - 1. One thro' sciatic notch.
      - Through gluteus, 5 abscesses.
      - Downward to thigh, 3 abscesses.
    - 2. Inward toward the ischio-rectal fossa.
      - Rectum, 2 abscesses.
      - Perineum or anus, 2 abscesses.

—*North Am. Practitioner*, Oct., 1889.

TO PREVENT ABORTION.—DR. Q. C. SMITH suggests the following:

Fluid extract of ergot,
Fluid extract of black haw,
Tr. belladonna,
Tr. ipecac, ... āā f ℥ j. ℳ.
Sig.—A small teaspoonful, t. d., after meals.

It is said to be especially suited to the prevention of habitual abortion, caused by deranged constitutions, and is also very effective for allaying uterine irritability resulting from traumatism or external violence. Of course the bowels should be kept comfortably open regularly. Opium is not admissible in this class of cases, unless it is desired to terminate pregnancy without delay.—*Nashville Journal Med. and Surg.*

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SATURDAY, OCTOBER 26, 1889.

MEDICAL SOCIETIES AND ORGANIZATIONS.

Organization and division of labor is a theme that is of practical everyday interest to all thinking men. It engages the attention of statesmen, politicians, philosophers and financiers, as well as of the laborer, artisan, manufacturer, merchant and professional worker.

In the struggle for existence and rivalry for supremacy, effective, congenial organization is the very first act for consideration. It precedes all forms of government, and antedates all corporate existence. Corporate organization keeps step in the most beautiful manner with the development paces of the scientific investigator.

Without the invention of the lamp chimney the Standard Oil Company would never have breathed the breath of life, in the form of an organization that within a score of years has built a number of colossal fortunes, and moulded the acts of powerful State Legislatures as if they were clay in the hands of the potter. One man, even with kingly authority, could not have done this, but an effective, congenial organization was equal to the occasion.

In the last century the East India Company became more powerful and wealthy than the crown of England, and it is very questionable to-day whether organized corporate power is not greater in this country than the political power. We are quite sure it would be the greatest if our form of government were any other than republican. Men of all occupations recognize the power and necessity of corporate organization, in order to the accomplishment of any specific purpose of magnitude.

In our profession as practitioners of the healing art, whether engaged in making bedside observations, or delving in the unknown, with or without the aid of instruments of precision, that may be fitly spoken of as supplying a third hand and eye; division of labor and society organizations are an absolute necessity. The results of the labor of any one man are usually small, but as an integral part of the labors of a whole profession that has an effective organization, his value may be compared to that of the pinion wheel in a watch; without which the entire remainder is entirely valueless as a timekeeper.

Hence, the necessity and use of professional organizations, where every member will be a living factor, properly adjusted and in the place where he will fill his mission in doing the greatest possible amount of good to himself and his fellow men.

The village and city, county and State, district and National societies all have their place, and as every member of the most obscure society has his definite place in that organization, so should all organized medical societies be brought together in order to become and form one unified, composite body, complete in all its parts, and embracing within its folds every reputable member of the medical profession in this wonderland of ours.

Through the medium of a perfected system of organization, the results of all observations, thoughts and investigations, may be deftly placed in their proper niche for utilization for the common good.

For lack of necessary facilities for presentation to and through some society organization, many a valuable discovery has literally been lost, not only to the medical profession, but its benefits for an indefinite time have been withheld from the entire world.

Not infrequently the reading of an elaborate paper brings out in discussion a greater and more valuable fund of information than the author was able to obtain through weeks of labor in scanning all the books and journals at his command.

The frictions of all society meetings have their beneficial effects. The conscious or unconscious *ego* that is apt to be a part of every educated man, is often rasped, filed, sandpapered and finally rubbed down to a polish that is always more

becoming to an accomplished and well-bred physician, than the rough jewel he was before the process was undertaken.

With a marvelous growth of population, medical science has kept abreast of the times. Rapid transit by means of steam and electric motors; cheap and practically instantaneous intercommunication have absolutely revolutionized commercial methods of business, and singularly enough they have in like manner influenced the ways of the medical practitioner. He is summoned by telephone or telegraph and often imparts the most important and vital directions through the same instrumentality.

The physician of the period has ceased taking and looking to a cumbrous quarterly or half yearly medical magazine for his current literature, and nothing short of a weekly meets his arbitrary and hungry demands, while the doctor who has prepared a paper for publication and does not want it printed and sent on its mission within a week, is a rare man; his family are suffering from a mortality that will only remind us of those saddest words of tongue or pen—"what might have been."

The local medical society is a most important factor in our professional organization. Every such society fitly represents a cog in the great driving wheel of progress.

Noting the scientific value of society organization and the incalculable benefits to be derived from the accumulated wisdom unfolded and unbidden at the meetings, we are not to forget that one of the great benefits conferred, is the opportunity furnished by the occasion for a cultivation of peace, amity and goodwill. The people and practitioners alike are benefited in promoting inclinations for consultations, and in this manner demonstrate to the world the brotherhood of man as exemplified in our profession, and the cosmopolitan character of our art.

Professional activity has already accomplished a world of good in organizing and fostering the growth of medical societies, and now there is no more important question open for discussion than the comprehensive one as to what are the best methods to be used, in order to bring abont a complete unification of the entire medical profession in their society organizations. In a recent issue of THE JOURNAL, we endeavored to indicate a feasible plan for bringing about a unification of the entire medical profession of this country, through the organization and incorporation of district and other kindred societies as actual branches of the American Medical Association.

The comments directly received and borne to us have been of a favorable and gratifying character. It is our desire that the subject, which we regard as a very vital one to the Association itself, as well as to the entire medical profession, shall have the widest possible attention and discussion.

Organization means power and influence. The more thorough and complete it is made, within the most liberal bounds, correspondingly will the power and influence be great for the welfare of science, the entire membership of our profession, and that of the people.

THE HOME TREATMENT OF CONSUMPTIVES.

Sad indeed is the outlook for the consumptive who is unable to seek a change of climate when that of his home is not suited to life out of doors. So uncertain are all means directed to the local treatment of pulmonary tuberculosis, even Weigert's hot air inhalations, that the greatest hope of arresting the disease lies still in its proper climatic management. By far the largest number of consumptives, however, is compelled to forego this chance of recovery and rely upon the physician and nurse. In only too many instances the former falls into a dreary routine born of hopelessness, while the nurse is but too often an ignorant, inexperienced, though loving member of the family. This is deplorable. If for good and sufficient reasons the doctor does not resort to expensive local measures, but is satisfied if he can merely ameliorate the patient's condition and prolong life, he should at least manage the case intelligently and conscientiously. It is safe, probably, to assert that the average practitioner employs means to mitigate symptoms which in the end defeat the object aimed at. For example take the cough. This is often most harassing and the cause of the sufferer's chief complaint. What is usually given to relieve it? A cough mixture, generally a cough syrup containing opium or one of its alkaloids. The cough is mitigated, but at the expense of the stomach. The best and safest measure addressed to the relief of the cough of phthisis in its later stages

consists in the use of respirators charged with volatile substances. R. DOUGLAS POWELL states it forcibly when he says: "The effect of such inhalations is to relieve cough and to lessen expectoration, and there can be no doubt that, as I believe to be the opinion of Dr. Coghill, who has so ably advocated their use, one of their chief functions is to do away with cough mixtures; for certainly the cough linctus treatment of this eliminative period of phthisis, by lulling cough and deranging the stomach, is the very worst that could be devised." In the early stages, when inflammation is active, JACCOUD insists on the benefit to cough to be derived from persistent counter-irritation over the affected parts. At all events it should be a rule to avoid the administration of opiates except, it may be, in cases of suffering from laryngeal complications.

Another routine prescription is that of atropine for night sweats. This is all right when they are exhausting and cannot be controlled by simpler or more agreeable means; but it so often produces so much sleeplessness and restlessness, and the sweating is so often less than is represented, that a little thought on the part of the doctor will discover some efficient and more desirable remedy.

How now is it with the nursing of the consumptive? Alas! In most cases, the attention bestowed by mother or sister is fraught with such a degree of solicitude as defeats its own ends. More intelligent nursing and firm enforcement of salutary orders, with less enervating *coddling*, would be far better for the invalid.

The principle of treatment of all consumptives should be, the least medicine possible and the greatest possible nourishment. Both physician and nurse should comprehend this and work together for its accomplishment. The consumptive's stomach is sensitive already and loathes the very thought of *ingesta* of any kind. Then why increase it by drugs and particularly opium?

The wisest treatment of the phthisical sufferer is to be found in his simplest and most natural management. The physician should bestow his thought upon the most suitable kinds of nourishment, modifying these as the state of the case varies. He must not content himself with issuing the vague instruction to give anything the patient can eat. Thought is necessary. At first force upon the system all the nitrogenous food it can be made to assimilate by help of fresh air and judicious exercise. But when hectic is consuming the frame and the supply of oxygen is small by reason of extensive structural loss as well as inability to exercise, then to overload the system with such food is but to heap fuel on the flames. At such a time a readily oxidizable non-nitrogenous dietary is indicated. While the physician is thus thoughtfully superintending the character of the food, the nurse should be studying how to successfully tempt the capricious invalid to take the nourishment. In the skilful preparation and dainty serving of the viands there is ample room for the nurse's ingenuity. In all other matters pertaining to the *art* of nursing, in short in the hygiene both of the patient's person and surroundings, intelligence even more than affectionate solicitude will minister to the comfort and prolong the life of the consumptive.

Meantime the welfare of the home circle should not be sacrificed to the care of the invalid. Strict antiseptic and prophylactic measures should be carried out. The health of the well members of the family is of no less importance than the care of the sick!

It is beyond the scope of this article to detail the proper management of consumption, its aim is only to emphasize the fact that, although medical skill has not yet found a means of successfully coping with consumption, much can nevertheless be done by a wise, not by a routine, direction of the home-treatment of phthisical patients.

EDITORIAL NOTES.

HOME.

THE TRI-STATE MEDICAL SOCIETY.— The meeting for the organization of this Society, was held at Chattanooga, Tenn., on the 15th inst., and was in session for two days. A special correspondent says that in every particular it was a complete success, and promises to embrace the best working body of medical men in the South. The membership numbers over eighty. The papers were abundant and of good quality, and the discussions far above the average in ability and interest. All in all, the outlook for the new Society is most promising. We shall have occasion to refer to its proceedings in a later issue.

WABASH SURGICAL ASSOCIATION.—The annual meeting of this Association will be held at Toledo, O., on the first Tuesday in November.

MANAGEMENT OF GARBAGE IN LARGE CITIES.—Dr. Oscar C. De Wolf, ex-Health officer of Chicago, contributes an excellent article on this subject in the *Sanitary News* of October 12. He says that thirty-five years ago preventive medicine consisted in trying to keep out disease by quarantine methods; now it consists chiefly in removing the conditions favorable to its existence and spread. The country is constantly pouring into the city the organic matter necessary to sustain the city's life. From the prairies of the West, from the fields and gardens of the South, from foreign lands, and from the seas loaded trains and freighted ships are constantly arriving and discharging the provision for the organic wants of the population. This provision is not all consumed, but a large residue remains, effete, putrefiable, dangerous, which, if not speedily cast out beyond the borders, or otherwise properly disposed of, is sure to produce a poison by its decomposition which not only directly affects the health of the community, but indirectly supplies a breeding place for the specific germs of disease and stimulates them to great activity of development.

In the country vegetable growth makes use of this effete matter as a stimulant to other growth, reorganizing it into other nutritious substances. In the city this source of putrification is wanting; small accumulations from each family result finally in immense quantities from many families, which impregnate the soil, vitiate the air, and cling in putrid films to the walls of dwellings and to all exposed surfaces. Unless, therefore, a city is provided with the proper means to care for this refuse in a sanitary manner, the accumulation will work a steady and sure vitiation of all the avenues of life; and one of the great advances of sanitary science in the later years, along the lines of disease prevention, has been the successful effort to remove this filth from all its hiding places in alley and street, area and corner, and the indispensable provision to care for it and dispose of it by sanitary methods.

The custom of using garbage for filling low lots and old water courses within the limits of a city—and which were to be used as sites for dwellings—or feeding it to swine, was long continued, and is even now permitted in some localities, although such methods can receive nothing but the most emphatic condemnation from sanitarians. . . . .

Rats are the peculiar vermin which swarm about kitchen garbage in all our cities, and if a man may harbor 100,000,000 of these trichinæ parasites—as Cobbold says he may—then a rat may possibly be infected with 1,000,000, which at a certain period of evolution of the parasite are lying free in the intestines of the rodent, and which may be freely discharged from the bowels with the fæces. Is it strange, therefore, that hogs fed on city garbage are peculiarly liable to this dangerous infection, and are regarded with suspicion by sanitarians as food for man when thus fed?

The feeding of garbage to milch cows is also very objectionable from the sanitary stand-point. It diminishes the vigor of the animal and vitiates the secretion of milk.

THE MEDICAL MIRROR is the title of a new journal to appear in January, under the editorship and management of Dr. I. N. Love, of St. Louis.

FOREIGN.

AN ANGLO-AMERICAN MEDICAL ASSOCIATION IN GERMANY.—Some English and American physicians have resolved to found in Vienna a society to be called the Anglo-American Vienna Medical Association, with a view to giving information and moral support to the English and American doctors and students of medicine who come to the Vienna University. As a rule, there are but few students of medicine from England and America, but a great number of doctors of medicine. In the last half year 103 American doctors were on the books.

A HOSPITAL FOR STUDENTS.—The Association for the care of sick students in Vienna is about to purchase, at a cost of $22,000, a building suitable for a hospital, in which forty patients can be cared for. The annual cost of supporting the hospital is estimated at $6,000.

DR. PROTHEROE SMITH, the founder of the Hospital for Women, Soho Square, London, died September 28, aged 80 years.

PROF. BARDELEBEN has been elected Dean of the Medical Faculty of the University of Berlin.

TOPICS OF THE WEEK.

LAPAROTOMY DURING MENSTRUATION.

We quote the following paragraph from the President's address, delivered at the fourteenth annual meeting of the American Gynecological Society, held in Boston, September, 1889, by DR. H. P. C. WILSON, of Baltimore:

But, gentlemen, before closing this address, which you have required me to deliver, and which is more trying to me than many laparotomies, I must present you with one question: Shall we perform laparotomy immediately preceding or during menstruation?

This is a question which frequently embarrassed me in my earlier professional experience. Books were searched and authorities consulted for its elucidation, but I found nothing to enlighten me on the subject. The medical friends with whom I consulted advised against such a procedure. In addition to this came the paper of Dr. Horatio R. Storer, read at the first meeting of this Society, in 1876, in which he concluded "that for pelvic operations, all things being equal, it is better to select the week immediately following the cessation of the catamenia" for all such operations.

Operations per vaginam may require the selection of the uterine ebb, where such choice can be made, as the dressings and attention necessary afterward may be embarassed by menstruation; but for laparotomies involving the pelvic organs my experience teaches me to select the uterine flood, rather than the uterine ebb. During the uterine flood the circulation and innervation are in a state of tonic excitement. During the uterine ebb they are in a state of relaxation and depression; and patients thus are more liable to passive hæmorrhages, the absorption of septic poison, the deadly influence of shock, than when the system is under the stimulus of the uterine flood.

It may be said that inflammatory troubles are more apt to be set up during the uterine flood. I would ask the Fellows how many of their laparotomies have been lost by inflammation other than septic. I cannot recall one in my own experience. Shock, hæmorrhage and blood-poison have been the causes of death in all cases, and blood-poison oftener than all other causes together. —*Boston Medical and Surgical Journal.*

PÆDIATRICS AND PUBLIC HYGIENE.

At the recent meeting of the American Pædriatic Society, the President, DR. A. JACOBI, in his annual address, makes reference to this important subject as follows:

"The most vital questions of public hygiene are most intimately connected with pædiatrics. It is mainly two subjects that attract the attention of those who take an interest in children. I allude to the school and to constitutional diseases. My remarks to-day can be but fragmentary, but still I must not, both in the interest of our science and human society, omit to emphasize the fact that it still appears that our schools were establishments organized to produce nearsightedness, scoliosis, anæmia, and both physical and intellectual exhaustion. Contrary to the treatment a colt receives at the hands of its owner, human society, or the State, permits or directs that the powers of a child should be rendered unfit for its future functions, physical, mental and moral, for these three are indelibly interwoven. It requires physical and mental education to fertilize the soil for the evolution of morals. Thus the physician, and especially he who makes pædiatrics his special study, is a pedagogue by profession. The question of school-house building and school-room furniture, the structure of bench and table, the paper and the type in the books, the number of school hours for the average child and the individual pupil, the number and length of recesses, the hours and duration of intervening meals, the alternation of mental and physical training, the age at which the average and the individual child should be first sent, have been too long decided by school boards consisting of coal merchants, carpenters, cheap printers, and under-taught and over-aged school mistresses; not, however, of physicians. The health and vigor of the American child in early years seem, according to Bowditch, superior to those of the European; why is the youth and maiden, particularly the latter, so inferior? Why is it that anæmia and neuroses eat the marrow of the land and undermine the future of the country by degenerating both the workers and the thinkers of the community, and the future mothers? If there is a country in the world with a great destiny and a grave responsibility, it is ours. Its self-assumed destiny is to raise humanitarian and social development to a higher plane by amalgamating, humanizing and civilizing the scum of all the inferior races and nationalities which are congregating under the folds of our flag. Unless the education and the care of the young is carried on according to the principles of a sound and scientific physical and mental hygiene, neither the aim of our political institutions will ever be reached, nor the United States fulfil its true manifest destiny. That destiny is not so much the political one of excluding Europeans from our continent, North or South—for indeed the participation of European civilization in the gradual work of removing barbarism ought to be very welcome—but of raising the standard of physical and mental health to possible perfection, and thereby contributing to the welfare and happiness of the people."

THE ARTIFICIAL FEEDING OF INFANTS.

At the first annual meeting of the American Pædiatric Society, held in Washington, D. C., September 20 and 21, 1889, DR. A. V. MEIGS, of Philadelphia, read a paper upon this subject, a report of which we copy from *The Medical Record:*

The author said that, after a long experience, he had seen no reason for making any radical change in the artificial food which he had previously recommended. He had found that mother's milk never contained more than 1 per cent. of casein. This food was based upon the dilution of cow's milk, for the reason that it contains too much casein; the further need of the addition of cream because, in diluting, the fat was reduced to too small an

amount; the addition of sugar, to make it equal to the amount contained in human milk; and of lime-water, to change it from being an acid to an alkaline fluid. However, he had fallen upon several improvements to render it easier to get together the required amounts of the different constituents, and thus simplifying the work of the nurses. He directs that instead of taking cream and milk in the proportion, respectively, of two and one in eight, three parts of a weak cream be used, which is obtained as follows: One quart of good ordinary milk is obtained and placed in a high vessel, and allowed to stand in a cool place for three hours. Then one pint is poured slowly from this, care being taken that the vessel is not agitated, the object being to obtain the upper layer of fluid, rich in fat, and leave the lower comparatively poor portion behind. When the child is to be fed, there is taken of this weak cream 3 tablespoonfuls, of lime-water 2 tablespoonfuls, and of sugar-water 3 tablespoonfuls. The sugar-water is to be made in the proportion of 18 drachms of milk-sugar to 1 pint of water. This is an improvement upon the food recommended previously by the author, because it is more economical (cream being expensive) and the food is less likely to ferment.

THE TREATMENT OF GASTRIC DIGESTION.

In cases where there is reason to believe that gastric digestion is imperfect, common salt should be used in increased amount in the food, so that the quantity of hydrochloric acid may be increased. If, however, there is reason to believe that lactic acid is present in too small a quantity to split up this salt, then hydrochloric acid must itself be used, and where it is employed given freely in order not only to act thoroughly itself, but also to perform an equally important function, namely, the conversion of pepsinogen into the active body pepsin. In other words, deficiency of pepsin in the juice is to be corrected not by a prescription containing much pepsin and little acid, but rather the reverse, for the pepsin in the prescription is after all an extraneous product, while the pepsin brought into being by the acid is a normal secretion. Of course the quantity of pepsin must depend on a normal formation of pepsinogen, but it should not be forgotten, on the other hand, that as pepsin acts by catalysis, and is a most powerful ferment, only very small quantities of it are absolutely necessary, while large amounts of hydrochloric acid, comparatively speaking, are essential.

In an article recently published in the *Revue Médicale de la Suisse Romande* Bourget has enunciated some thoughts which are so completely in accord with the views here expressed as to be worthy of quotation. He believes, as does the writer, that the hydrochloric acid is generally the secretion which is lacking in amount, and recommends its free employment as the most important part of the treatment of gastric indigestion. He does not seem to do this because he believes it to increase the pepsin, but only because he thinks the acid secretion is more apt to be deranged than is that of the ferment. According to my own practical experience and the much more reliable information gained by experimental research, it is to be concluded, therefore, that pepsin is to occupy the least prominent position in a prescription for gastric disturbance, and that the acid is to be freely used. Indeed, I am so surely convinced of the importance of the acid in its double sphere that I fear I am sometimes inclined to give almost no pepsin at all.—*Med. Analectic.—Mass. Med. Journal.*

THE MEDICAL PROFESSION AND THE WORLD'S FAIR.

Under the above caption the *Medical Record* deplores the fact that the Mayor of New York has not as yet placed a representation of the profession on the World's Fair Committee. It is not so in Chicago, where there is a regular organization of the profession working with the general committee to raise $10,000,000 towards securing the World's Fair for this new Metropolis of the United States. The editor very sensibly remarks that "as the purposes of the Fair have so far been outlined, there will surely be a field for medical and surgical displays of various kinds. There should be historical exhibits to show the progress in the care of the sick, and in their surgical and medical treatment, with displays illustrating the old hospitals and the new, the old surgical instruments and mechanical appliances and the new. There should be illustrations also of the development of the specialties, with displays of all new apparatus and instruments of precision in every field. The development of bacteriology, the improvements in methods of teaching, historical accounts of medical progress, and of the growth of sanitary science, all would have a fitting place. It is easy to see that a medical and surgical exhibit might be made which would have great intrinsic interest, and would be of immense educational value, not only to the medical profession, but to the laity."

We would add to this a suggestion that whichever city is selected there should be held the meetings of the American Medical Association, and the various National Societies of Specialists in 1892. This is not only desirable from the standpoint of economy, but will ensure a larger attendance at the meetings, and enable the members to "take in" the medical and surgical exhibit so ably advocated by the *Medical Record.*

A DOG WITHOUT A BRAIN.

At the last meeting of German neurologists, held in Baden-Baden, PROF. GOLTZ, of Strasburg, reported a most remarkable experiment. He cut out, in two operations, almost the entire cerebrum of a dog, leaving only the cerebellum and a small portion of the base of the cerebrum. The animal lived for fifty-one days after the last operation and then died of pneumonia. The remarkable part of the experiment was the influence it had on the dog, who, a few hours after the operation, raised himself on his hind legs, put his paws over the side of his box, and looked inquiringly around. He could walk, eat, and drink, and would chew any food that was placed in his mouth. Waking and sleeping alternated naturally. He was restless before feeding, but afterward would become quiet and sleep. A slight touch would awaken him from sleep. During urination and defecation the animal assumed the normal position. Hearing, taste, and smell were, of course, absent—*Wiener Medical Presse.*

PRACTICAL NOTES.

CURE OF FISTULA IN ANO AND HÆMORRHOIDS BY ELECTRICITY.

DR. SHOTWELL, of Grand Rapids, Mich., claims complete success from the following methods of treatment: In fistula he first passes a probe with an eye point from the external opening into the rectum. He then introduces a lance-pointed probe (having likewise an eye near the end), making the point of insertion about three-eighths of an inch further from the anus, and pushes it in through the solid structures, parallel with the fistulous track, till its eye is seen within the rectum. The eyes of both probes are then threaded with the ends of a No. 24 platinum wire about 10 inches in length, and both probes are withdrawn, leaving the wire in the form of a loop. The ends of the loop are now attached to a battery, an electrolytic current turned on and the loop drawn through the partition, in its passage destroying the membrane lining the fistula. No dressing is necessary, but the bowels should not be permitted to move for one week. Union takes place by first intention. The Shotwell rectoscope is employed and the patient requires to be anæsthetized during the operation. Hæmorrhoidal tumors are similarly removed and without the occurrence of hæmorrhage.—*New Orleans Med. and Surg. Journal.*

HYPODERMIC USE OF MORPHIA—THE INITIAL DOSE.

Great diversity of opinion exists as to what constitutes a safe initial dose in a person unaccustomed to its use. This should not exceed for an adult female one-eighth grain, for an adult male one-sixth grain. I have myself seen death follow upon the injection of one-quarter grain in an adult male, and Ringer says "a larger quantity than one-sixth grain sometimes produces serious consequences." There are, I think, two reasons for the large quantities given: (1) The maximum officinal dose of half a grain is much too high. This is evident when we consider that the maximum hypodermic dose, and that for administration by the mouth, is fixed at the same quantity, namely half a grain. All authorities are, I believe, agreed that morphia injected hypodermically is at least twice as potent as morphia given by the mouth. The maximum hypodermic dose ought, therefore, to have been fixed at one-quarter grain instead of half a grain, and we have, I am afraid, the British Pharmacopœia to thank for many fatal results that have occurred. (2) Many of the younger members of the profession have taken their standard of an ordinary dose from the quantities they were ordered, when clerks or dressers, to inject during the time they were in the hospital. They forget that the majority of these patients were suffering from incurable disease.—*Braithwaite's Retrospect.—Medical Age.*

MALE FERN AND CALOMEL FOR TAPE-WORM.

In the treatment of tænia Dr. Duchesne strongly recommends male fern combined with calomel, according to the following formula:

Eth. extract male fern . . . . . 2 drachms.
Calomel . . . . . 12 grains.
M. Make 16 capsules, which are given two at a time every ten minutes until all are taken.

The great advantage of this preparation is that the patient has nothing to drink, and that the purgative is taken along with the worm-medicine. For some people, especially women, capsules are difficult to take, in which case the medicine is perhaps best taken with molasses. Sometimes the capsules provoke colicky pains, but these can be avoided by taking 20 grs. of antipyrin fifteen minutes before the capsules. With these capsules Duchesne has yet to experience his first failure, and he has already used them in hundreds of cases. Male fern is the only remedy that will successfully expel the bothriocephalus. The treatment of tænia in children is a difficult matter, but he has been regularly successful with the following plan: After fasting twelve hours, administer the following preparation to a child of 5 years:

Eth. extract of male fern . . . . . 1 drachm.
Calomel . . . . . 6 grains.
Sugar . . . . . 2 drachms.
Gelatin, q. s. to make a jelly of ordinary consistence

The patient should be told to take an injection of salt water when the worm appears at the anus, and then sit over a vessel of warm water to float the worm and prevent it breaking from its own weight. The one point always to be remembered, on which success depends, whatever the vermifuge used, is the necessity of administering the purgative soon after the substance which stupefies the worm.—*The Weekly Medical Review.—Medical Record.*

OBSERVATIONS ON THE USE OF GLYCERINE ENEMATA IN CHILDREN.

During a period of four months glycerine enemata were used at the Evelina Hospital for the treatment of constipation, to the exclusion of purgatives. The children were not allowed to pass more than two days without an action of the bowels. A carefully prepared table is submitted, showing the result of 214 injections in sixty-three children. One drachm of glycerine was given in 156 cases, one drachm and a half in forty-eight, and two drachms or more in but nine.

In 154 instances the injection was followed by normal motions, in twenty-six they were loose, and in twenty-four of more than normal con-

sistency or composed of scybala. In ten only did the enema fail to act. In no instance were there unpleasant symptoms, either local or constitutional. No child was found whose bowels failed to respond to the glycerine stimulation at one time or another.

As regards the time of action, ninety-five injections were followed by motions within five minutes, ninety within thirteen minutes, while with the remainder the time varied from thirty-five minutes to eleven hours. The failures or cases of delayed action were in tubercular patients or those who had undergone operation and were therefore restrained from exercise or movement.

After a brief summary of the action of various cathartics in common use among children, the author expresses himself as very favorably impressed with glycerine enemata, which are easy of application, unattended by pain, quick and natural in action, and followed by but few failures.—*Epitome.—Mass. Med. Journal.*

FOR CHAPPED NIPPLES.

Says the St. Louis *Medical and Surgical Journal:* MITROPOLSKY, of Moscow, recommends chloral as an excellent local means for fissured and excoriated nipples. The latter should be kept covered with compresses (soft linen soaked in a solution of ½ drachm of chloral in 3 ozs. of water). The compresses should be changed every two and a half or three hours. When a prolonged application is necessary, it is advisable to use a weaker lotion (½ drachm to 6 ozs.) The solution leaves a thin, whitish, firmly adherent film over the diseased surface, which does not disappear by suckling. Pain and tenderness are said to be strikingly relieved almost immediately, the lesions rapidly healing. The chloral compresses do not produce any bad effects on nurslings.—*The Canada Lancet.*

THE MULTIPLICATION OF BACTERIA.

As regards the reproduction of the bacteria, many of them can double their numbers every hour when placed in the best conditions for their activity. In such circumstances then, a single bacterium would in twenty-four hours produce no less than 16,777,220. At the end of forty-eight hours the offspring would amount to 281,500,000,000, and would fill a half pint measure—all produced in two days from a single germ measuring $\frac{1}{150000}$ of an inch. Fortunately, however, bacteria can rarely so propagate themselves, they meet with all sorts of drawbacks, and thus in spite of their enormous fertility the survivors are in a general way only enough to keep up a fair balance in nature. The diseases producing bacteria, however, have no claim upon our forbearance, and in these the enormous fecundity we cannot too closely contemplate. Some, like the bacteria of tuberculosis and glanders, propagate themselves slowly; but the great majority of the bacteria causing animal plagues will, in favorable cases, double their numbers hourly.—PROF. LAW, in *The Pharmaceutical Era.*

PHENACETINE IN WHOOPING-COUGH.

DR. HEIMANN, of London, writing in the *Münchener Med. Wochenschrift*, states that he was induced to try the effect of phenacetine in whooping-cough, as he had been very much disappointed with antipyrin. Although he has given children of 3 and 4 years old a few doses of 15 grains each of phenacetine, he has never found any ill effects from its use, and the results, he says, have been uniformly satisfactory—*London Lancet.*

A VEHICLE FOR IODIDE OF POTASSIUM.

Milk as a vehicle for iodide of potassium completely masks the taste, and does not apparently interfere with the therapeutic qualities. Patients who could not tolerate 10 grains when administered in water could soon take 40 grains in milk with no symptoms of nausea.—*Cincinnati Lancet-Clinic.*

THEINE IN NEURALGIA.

PROF. J. K. BANDY, of St. Louis, finds in the hypodermic injection of theine a specific for some forms of neuralgia. The dose is from ¼ to ½ gr.; the point of the needle should be brought in as close contact with the sheath of the affected nerve as possible.

EXPLOSIVE MEDICAMENTS.

PROF. ROBERT calls attention to the following explosive mixtures: Chlorate of potash mixed with charcoal dentifrice powder may explode, even in the mouth. Chlorate of potash mixed with catechu, or with tannin, explodes with friction, even if glycerin is added. Chlorate of potash and phosphate of sodium explodes while mixing the powder. One part of chromic acid mixed with two parts of glycerin explodes immediately. Iodine and ammonium should never be mixed together, as it is extremely apt to explode. Bromine and alcohol, forming the bromide of ethyl, often explodes. Picric acid reduced to powder explodes, when mixed with any other substance.—*Gazette de Gynécologie.—The Times and Register.*

PRESERVE YOUR INSTRUMENTS.

You can preserve your instruments from rusting by immersing them in a solution of carbonate of potash for a few minutes. They will not rust for years, even when exposed to a damp atmosphere.

SOCIETY PROCEEDINGS.

American Orthopedic Association.

Proceedings of the Third Annual Meeting, held in Boston, Mass., Sept. 17, 18, and 19.

First Day—Morning Session.

The Association was called to order by the President, Dr. E. H. Bradford, of Boston, who delivered an address of welcome.

Dr. V. P. Gibney, of New York, read a paper on

THE TYPHOID SPINE.

He drew attention to a group of symptoms pertaining to the spinal column, as sequelæ of this fever, and as an anatomical designation used the term *perispondylitis*, meaning an acute inflammation of the periosteum and the fibrous structures which hold the spinal column together. He reported three cases. Careful search of textbooks has failed to reveal any cases of like nature. He alluded to a similar condition in which the hip was affected.

Dr. L. A. Weigel, of Rochester, N. Y., contributed a paper on *The Relation of the Thoracic and Abdominal Walls to the Spinal Column considered with Reference to the Treatment of Antero-Posterior Curvature.*

Dr. Dillon Brown, of New York, read a paper on

PSOAS CONTRACTION AS A SYMPTOM.

He referred to the various diseases in which this condition may be found, and gave their diagnostic points, emphasizing the phenomena by means of which each disease could be excluded.

Dr. A. B. Judson, of New York, read a paper on

THE PREVENTION OF THE SHORT LEG OF HIP DISEASE.

He said the deformities of hip disease are caused by the patient's efforts to so place the limb that it shall be the least disturbed by, and afford him the most convenience in, his customary attitudes and movements. They are (1) abduction; (2) adduction; and (3) extreme adduction and flexion. The second position is practically by far the most important.

Dr. C. C. Foster, of Cambridge, Mass., reported a

CASE OF CARIES OF THE ANKLE TREATED CONSERVATIVELY.

He gave a detailed account of the case and its treatment. He showed the patient and plaster casts of the foot before and after treatment. He held that such treatment is not so quick and easy as a successful resection, but that the final result is far superior.

Dr. C. L. Scudder, of Boston, read

A REPORT OF CASES OF CARIES OF THE ANKLE TREATED BY EXCISION,

exhibiting patients.

He drew the following conclusions:

1. Excision is safe, and the mortality not great.
2. The convalescence and time of after-treatment are short.
3. The disease in the foot is ended; and the prognosis is sure.
4. Profuse suppuration and its consequences are avoided.
5. The likelihood of septic infection is at a minimum.
6. The partial operation of curetting is of very little value.
7. There is no mutilation of the foot.
8. Its usefulness is very great after excision.
9. The question of tubercular infection from operative influence is yet unsettled.
10. Excision of all the diseased bone should be resorted to earlier in the treatment of chronic ankle joint and tarsal disease.

Dr. John Ridlon, of New York, reported a

CASE OF CONGENITAL DISLOCATION AT THE HIP.

The patient, a female, aged 10½ years, came under his observation Feb. 16, 1888. The right great trochanter was 2½ inches above Nélaton's line, and it required a blocking under the foot of three inches to make her stand fairly erect.

The old pattern of the Taylor extension hip splint was applied, and the leg elevated on an inclined plane. For one year the child did not leave her bed, and so relaxation of the traction was for once permitted. At the end of this time it was possible to locate the head of the femur, which was found to be displaced upwards and forwards, lying almost directly below the anterior iliac spine, and the difference in the length of the legs was found to be reduced to one-half inch. A jointed splint was applied on Feb. 1, 1889, and the patient was allowed to get up.

Drs. R. W. Lovett and J. E. Goldthwaite, of Boston, contributed a paper entitled

ABSCESSES IN HIP DISEASE, THEIR PREVENTION, SIGNIFICANCE AND TREATMENT.

Three hundred and twenty cases of hip disease from the Children's Hospital were analyzed with reference to the number of abscesses occurring and the effect of treatment.

In the 320 cases 75 abscesses occurred, a percentage of 23, which very small percentage is attributed to long continued treatment with the long traction splint and by fixation in bed and traction in the line of deformity whenever deformity or sensitiveness occurred. The operation is not attended with the risk of septicæmia, nor does it prevent the occurrence of tubercular meningitis or amyloid degeneration, and finally it

may be said that thorough operation is followed, in a fair proportion of all cases, by speedy and permanent closure of the abscesses.

SECOND DAY.

The following papers were read: *The Principles of Treatment of Hip Disease*, by Dr. N. M. Shaffer, of New York; *The Early Local Treatment of Hip Disease*, by Dr. A. J. Steele, of St. Louis; *The Operative Treatment of Hip Disease*, by Dr. DeF. Willard, of Philadelphia, and *The Immediate Disregard of Malposition of the Thigh in the Treatment of Hip Disease*, by Dr. Barton, of Buffalo.

Dr. E. G. Brackett, of Boston, read a paper entitled *An Experimental Study of Distraction of the Hip Joint*, which was followed by one on *An Analysis of Twenty-one Cases of Hip Disease Treated by the Thomas Splint* by Mr. John H. Huddleston, of Boston.

Dr. John Ridlon, of New York, read a paper on *Fixation and Traction in the Treatment of Hip Joint Disease*, followed by one on *Excision*, by Dr. R. H. Sayre, of New York, after which a general discussion ensued.

THIRD DAY.

Dr. G. W. Ryan, of Cincinnati, read a paper entitled *When Shall Treatment be Dispensed With in Spondylitis?* The following were also read: *A Contribution to the Study of Flat Foot*, by Dr. V. P. Gibney, of New York; *Traumatism of the Hip, Simulating Thyroid Dislocation*, by Dr. T. H. Meyers, of New York.

OFFICERS FOR 1890.

President, Dr. DeForest Willard, of Philadelphia; Vice-Presidents, Drs. A. J. Steele, of St. Louis, and A. B. Judson, of New York; Recording Secretary, Dr. G. W. Ryan, of Cincinnati; Corresponding Secretary, Dr. Samuel Ketch, of New York.

Next place of meeting, Philadelphia, third Tuesday in September, 1890.

Medical Society of the District of Columbia.

Stated Meeting, March 20, 1889.

THE PRESIDENT, CHARLES E. HAGNER, M.D., IN THE CHAIR.

DR. J. FORD THOMPSON reported the following cases:

1. EXCISION OF THE KNEE-JOINT (PATIENT EXHIBITED).

C. A. C., æt. 23, white, American, and a carpenter by trade. Was struck on the inner side of the right knee with an adze, making an incised wound involving the knee-joint. Inflammation ensued. He was treated by another physician for some time but kept getting worse and losing flesh and strength. When I first saw him the leg was flexed at right angles, there were several suppurating sinuses and the knee felt soft and boggy. On the 11th of December, 1888, I sent him to the Garfield Memorial Hospital, where I operated on the 13th.

The flap was made on the anterior surface and dissected back; the patella was removed, the diseased ends of the bones sawed off, and the diseased soft tissues removed. During the operation a stream of antiseptic fluid was constantly flowing over the wound. The ends of the femur and tibia were fixed by nails. The knee was then dressed antiseptically, and plaster dressing.

December 21. The dressing was changed and the wound looked well. December 23. The dressing was again removed on account of a slight elevation of temperature. From this time the recovery was steady and not marked by any untoward symptom. There was no pus in this case except where the nails were introduced, and these were removed in the third and fourth week. January 28. Discharged cured. Walking on crutches. March 20. He is present and walks with a cane.

About a year ago I reported to this Society a case of erasion of the knee-joint in a little girl 10 years old, in which recovery took place in five weeks. After the operation there was not any pus except along the line of the nails. In this case it was not properly an excision, as only diseased soft tissues and ends of the bones had been removed. I have never tried to get motion after erasion, although several cases have been recently reported in which motion was secured. I could not hope for motion in my cases and I question whether it would be proper to attempt motion. The operation of erasion is an improvement over the older practice of waiting until the tissues are so much diseased that excision is necessary. Excision is especially unsatisfactory in children, since if the ends of the bones are removed the limb will not grow. In an adult this will make very little difference, but in the child one leg would grow while the other did not, so that by the time the bone was through growing the shortening will be very marked. Erasion does not interfere with the growth of the bone.

About the time of the operation on the patient presented to-night I performed it upon a colored girl for tubercular disease of the knee-joint. She did not do very well, and as there were several sinuses I opened the joint a second time and spooned out all the diseased tissue that I could could find. She is now up and about, but is in a hectic condition and does not get well. I think an amputation would have been better in the beginning, and it may be necessary yet.

2. INCISED WOUND OF THE ABDOMEN.

S. H., male, colored, æt. 28, Arlington, Va. This man was cut about 9:30 P.M. of May 7, 1888, and was brought to Emergency Hospital in a milk wagon from Arlington, Va., a distance of six miles, arriving at 12:30 A.M. of May 8, about three hours after receipt of injury.

I saw him within an hour after admission. He had been cut with a knife in a fight, the wound made being about 2 inches in length, extending obliquely downwards and outwards to the left, beginning just below the ensiform cartilage and the lower part extending nearly through the left cartilaginous border of the epigastric region. The patient, who was pulseless from shock, had been cared for by the house physician by application of hot bottles, hypodermatic injections of ether and arom. spt. of ammonia. Over the epigastric and umbilical region there was a large mass of abdominal contents, which upon examination proved to be the entire stomach with great omentum, and all of the transverse colon, the mass being tightly constricted at the wound, as in strangulated hernia, and covered with dirt. The protrusion was carefully washed with bichloride solution 1 to 2,500, and thoroughly examined for wounds, but none being found, a blunt-pointed bistoury was insinuated beneath the protrusion and the incision enlarged downwards for an inch or more, after which the parts were reduced by taxis.

I found it very difficult to close the wound nicely at its deeper part on account of its extending into the cartilages. I brought the peritoneum together first with catgut sutures, and then closed the wound with sutures passed as deeply as was practicable. Antiseptic dressing was used.

May 8. Temp. 100°; pulse 100; resp. 20.

May 9. Temp. 102.2°; pulse 114; quite tympanitic. Coil was applied, and enema given, which produced good stool. Temp. was reduced by evening to 99.8°; pulse 98.

May 10. Temp. 100°; pulse 99.

May 13, evening. Sutures removed; pus oozed from suture wounds, and about 2 ozs. during night from wound. Milk diet and antiseptic dressing throughout. Recovery uninterrupted.

3. PERFORATIVE APPENDICITIS.

I was asked by Dr. J. W. Dunn to see this case at 8 P.M., February 21, 1889. There was a history of intestinal obstruction; he was very low and hiccough was incessant. I stated that it was a clear case demanding operative interference, but concluded to postpone it until next morning.

February 22d the patient was in about the same condition and I had the family advised of the extreme gravity of the case and advised immediate laparotomy. The patient was then anæsthetized and an incision in the median line was made. Upon opening the peritoneum a milky fluid escaped and I thought the intestines had been opened. The incision was then enlarged and about a quart of this fluid escaped. The pelvis cavity was filled with it. The incision was now lengthened upwards and the intestines were found to be adherent, of a blackish color, and looked gangrenous. They were gently manipulated. They were quite distended, and four punctures were made to draw off the fluids and gases; the punctures were closed with the Lembert catgut suture. In the cæcal region an abscess cavity broke and about five or six ounces of pure pus escaped. This cavity was then washed with a warm carbolized solution. At the caput coli the intestine looked healthy, but about two feet of the ileum seemed almost gangrenous, with numerous black, soft and leathery spots. In the abscess cavity a concretion like a coffee-grain was found, which I believed to be calcareous. The appendix and surrounding tissues having a gangrenous appearance, I thought it best to remove the appendix above the deeply congested part and establish an artificial anus, because I did not think the intestine could stand the pressure of the gases and contents. I also thought that if the patient survived the operation the artificial anus could be operated on successfully. He seemed to stand the operation very well, but died three hours after of shock.

I had never seen such a condition of the intestines. I did not know how the fluid got into the man's pelvis, nor its nature. It looked like the fluid injected into the rectum, but how did it get into the peritoneal and pelvic cavities? It did not pass through the abscess, as its walls were perfect. The case had been managed by one of the most capable female nurses I have ever seen, and she gave the enemata with the Davidson syringe, and not the long tube of other syringes, which is usually passed into the intestine while the operator is in ignorance where it is going. He suspected rupture in some portion of the intestine below the disease, but it could not be examined satisfactorily, and a post-mortem was not allowed to confirm the suspicion. The disease of the intestine was beyond all I had ever seen, and I do not know what caused it. In appendicitis there is no reason for the disease extending to such an extent.

If the man had had vitality enough to have survived the immediate effects of the operation, the artificial anus would have relieved the weakened bowel and he might have been cured by a subsequent operation.

I preferred the median operation because I supposed the trouble was obstruction, but it was fortunate that it was made under such a supposition, because it proved very advantageous. In appendicitis I perform the right inguinal operation. The diagnosis in such cases is very difficult and the best diagnosticians frequently fail.

I am impressed with the importance of the

early operation, and believe that it is too frequently delayed until the vitality of the patient is too much exhausted to resist the shock of laparotomy. In many cases the trouble is merely suspected and the physician waits for positive proof, which comes too late to save life. In all cases exhibiting peritoneal symptoms combined with those of obstruction the operation is imperative.

The case reported by Dr. McArdle, upon which I operated, has entirely recovered.

The history by Dr. J. W. Dunn, of this case, is briefly as follows: C. D., æt. 21 years, sent for me between 6 and 7 o'clock, on the evening of Feb. 11, 1889. I called about 8 o'clock, and elicited the following account of his illness: The day before (Sunday) had walked to Rock Creek cemetery and back again without fatigue. Upon his return had eaten a good dinner and enjoyed it. Monday morning about 10 o'clock was seized with a pain at the pit of the stomach, which was severe and lasted until he arrived home and had vomited his breakfast, which consisted of two soft boiled eggs, some bread and a saucer of preserved peaches with cream. The violent pain then disappeared. Vomited bile and mucus several times during the afternoon. Was given crushed ice and brandy, and when I arrived had not vomited for nearly two hours. Upon examination detected nothing abnormal, with the exception of a feeling of soreness over the region of the stomach. Said he was not ill but his bowels had not moved. I then ordered 1 grain of calomel in eight powders. One every two hours. Said he would send for me if he had further trouble. Temperature 98.6°; pulse 74.

Did not hear from him again until Friday, the 15th. Found him in bed, but had been up and around the house, and had eaten three meals a day. Said the soreness over the stomach had not gone away. Only felt it when erect, not when lying down. Was perfectly horizontal and free from pain. No pain on pressure over cæcum or in iliac region; thigh not flexed on pelvis; could extend leg freely and easily; no hardness; and abdomen uniformly tympanitic. Had not had nausea. Temperature 98.°6 taken in the mouth; pulse 76. The calomel had not operated, and his mother had given him a dose of castor oil, which had moved the bowels three times freely. Gave sulphate of quinine 2 grains every 4 hours, and ordered turpentine stunes over bowels.

From this time until Monday the 18th, his condition remained about the same. Had two or three light colored and offensive movements daily. Abdomen tympanitic and slightly swollen. Tongue of a natural color, and white fur on posterior portion. On this date (18th), seven or eight dark red spots appeared over the lower portion of the chest, disappearing in twenty-four hours. Highest temperature recorded 101.4°; pulse never over 96 per minute. Made diagnosis of "mild case of typhoid fever."

19th. Complained in the morning of nausea; bowels had not moved since evening before. Gave drachm doses of granulated effervescing citrate of magnesia, to be repeated every hour. This quieted the nausea, and at 9:15 P.M., produced a slight movement with quantities of offensive gas. At 10 P.M., the nurse gave an enema of one quart of warm water with soapsuds, which did not come away, and was repeated in one hour. 12:15 A.M., enema came away, bringing two hard pieces each, about three inches long. The nausea returned at this time.

20th, 2:30 A.M. Had severe pain in right side, came on suddenly and rapidly, subsided with applications of hot water and turpentine. Said the milk made him sick and vomited it with some greenish material and mucus three times during the day, viz.: at 11:45, 4:35, and 7 P.M. No movement during the day; 7 P.M., enema one quart, came away in thirty minutes, bringing four brown pieces and about two inches in length. The milk was withdrawn, and he did not vomit again. Pain in side did not return. Abdomen only moderately distended. No evidence of typhlitis or of perityphlitis. Was moderately tender on pressure on both sides. Principal soreness just below ensiform appendix. Temperature 101.2°, pulse 104.

21st, 2 A.M. Small movement, about 2 oz. of yellow fluid; 6:15 A.M., some yellow movement of about 4 oz.; 7 A.M., vomited about one pint of greenish material; after this seemed much better; 10:15, enema; slight movement with four small pieces; 4:30 P.M., vomited about 4 oz. of suspicious looking material, yellow in color. Had no marked fæcal odor; 5:50 P.M., large enema (two quarts), came away hardly stained. Nurse stated that he had hiccough during the afternoon; 9:15 P.M., enema of one quart of infusion senna; came away in one hour, one small yellow piece. Abdomen swelled rapidly on 21, and was much distended by 6 P.M. Enemata with exception of a few small pieces, were hardly stained. Temperature 101.8°; pulse 108.

Treatment consisted of 2 grains of quinine every four hours for three days, after which no medicine but the magnesia was given by mouth. Suppositories of morphine ¼ grain were given occasionally to procure sleep. Hot applications over bowels constantly. Diet consisted of milk and liquid beef peptonoids.

4. TWO CASES OF STRANGULTED FEMORAL HERNIA.

Case 1.—I was asked by Dr. Busey to see Mrs. B., who had a strangulated femoral hernia of the right side, of several days duration. I examined her on Feb. 10, 1889, and found a small tumor,

resembling a gland, just below Poupart's ligament, and I advised an immediate operation. Upon opening the sac I found a small knuckle of intestine, so very much congested that it looked at first to be in condition of gangrene; but after irrigation with warm water its appearance improved and it was returned. The sac was dissected off and tied with double catgut ligature as high up as possible in the ring. A drainage tube was inserted into the peritoneal cavity through stump of sac. Patient recovered with bad symptoms. The wound healed by granulation. The patient had no fever, and she was given an enema on the third day, which brought away fæces.

I think drainage is necessary in such cases as this for the radical cure of herniæ, and I expect a radical cure in those cases in which the sac is removed. In the following case also the sac was dissected out and the wound allowed to heal by granulation.

Case 2.—March 1 Dr. Koones asked me to see Mrs. G., white, aged 37, the mother of one child 14 years old. She stated that she had been ruptured about six years previously, but that it had never caused her any trouble until about three days previous, when lifting a heavy barrel she felt a sharp pain in the right inguinal region, and that she had been vomiting for the past two days. On examination Dr. Koones found a large femoral hernia, inflamed and irreducible. March 1, the operation described above was performed. March 2, temp. 100°, pulse 96; abdomen slightly tympanitic, and pain in right iliac region. March 4, temp. 96.6°, pulse 95. Had a natural stool. March 6, discharged cured.

In these cases the strangulated knuckle of intestine was enclosed by an omental sac. After relieving constriction the intestine was returned, the omentum transfixed and tied with catgut ligature high up in canal, and this large mass cut away. The sac was then dissected out, tied and cut off as in previous case. Drainage tube was inserted and antiseptic dressing applied.

Recovery without bad symptoms.

The concretion removed from the case of perforative appendicitis was referred to the Committee on Microscopy.

Dr. Kober: In the after-treatment, did Dr. Thompson desire to secure bony or fibrous anchylosis?

Dr. Thompson: The operation is not complete unless there is bony union, as in case of fracture.

The President: Some time ago he had seen a case of fracture of the patella by direct violence, in which there was subsequent union. Some time afterwards this patient, in an effort to break a fall, fractured the other patella, and union took place in it, making both limbs alike. He walks very well since the second accident.

Dr. Kober simply desired to direct attention to the different results obtained so far as the mortality was concerned, when excision was performed for traumatic causes and when performed for disease. Of 116 cases of excision of the knee-joint, collected by Gurlt, there were 21 recoveries and 95 deaths, or 81.89 per cent. Whilst of 431 cases collected by Penieres, operated on for disease, 300 recovered and 131, or 30.4 per cent., died, showing a difference of 50 per cent. in favor of the cases operated on for disease.

Dr. Thompson: Conclusions drawn from statistics of several years ago are of little surgical value nowadays. There has been such a revolution in surgery that the results now attained are far better than those for the same operations a few years ago. The case reported was traumatic, and still it got well without a bad symptom.

FOREIGN CORRESPONDENCE.

LETTER FROM PARIS.

(FROM OUR REGULAR CORRESPONDENT.)

Dr. Guéniot on the Causes and Treatment of the severe or obstinate Vomiting of Pregnancy—Dr. Marc Sée on Congenital Hypertrophy of the Right Lower Extremity—Prof. Gayet on the Wearing of Celluloid Artificial Eyes—Antipyrin in the Treatment of Enuresis—The Incompatibility of certain Antiseptic Substances.

At a recent meeting of the Academy of Medicine Dr. Guéniot read a memoir on the causes and treatment of the severe or obstinate vomiting of pregnancy. According to the author there are three principal factors concerned in the etiology of this form of vomiting, viz.: the uterus, the nervous system and the stomach, consequently it is against the alteration of one of these organs that the treatment should be directed. Thus, as regards the uterus, there may be ulceration of its neck, or a flexion of its body on the neck may be a source of irritation which reflects on the nervous system and the stomach and thus produces obstinate vomiting. On the other hand, it is possible that diseases of the ovum may cause the vomiting. The author had seen a patient who was the subject of a hydatiform pregnancy who was affected with obstinate vomiting. Some irritability of the nervous system might also reflect on the stomach. Finally, the stomach itself may be diseased, which would singularly predispose to vomiting. These etiological considerations should guide the physician in the treatment to be adopted. It is thus that in rectifying a flexion or deviation of the uterus, the raising of the hip combined with the lowering of the trunk is sometimes sufficient to arrest these persistent vomitings, and the application of a suitable pessary sometimes gives good results. If there be ulcer-

ation of the neck, topical remedies and even cauterization may be employed without fear of provoking abortion. If there is a tumor, it must be excised. If there is vaginismus, it must be combated by prolonged baths and the application of an ointment of cocaine. Even when an examination discovers no lesion on the side of the uterus, dilatation of the neck practised with the finger in multiparæ, with laminaria or a dilating instrument in primiparæ, would often arrest the vomiting. If there is irritability of the nervous system, enemata of the bromide of potassium or of chloral should be employed. The application of Chapman's ice bag to the dorso-lumbar regions of the spine, also gives good results. The ether spray to the spine and to the stomach, practiced just before meals, is often sufficient to check the vomiting. Inhalations of oxygen are also beneficial. If there be disease of the stomach, the patient must be subjected to a rigorous diet, all acidulous and alcoholic drinks must be suppressed. Ice, Vals or Vichy water, milk or beef tea to be taken often, but in small quantities at a time, may be allowed.

At the same meeting Dr. Marc Sée read a report on a case of congenital hypertrophy of the right lower extremity related by Dr. Duplony at the meeting of the 20th of August last. Dr. Marc Sée is of opinion that before practicing disarticulation of the thigh, the surgeon should try ligature of the artery, and he would strongly recommend the application of elastic compression, from which he had obtained excellent results in a similar case.

Prof. Gayet, of Lyons, reports that he had lately observed several cases in which the wearing of artificial eyes made of celluloid was attended with some inconveniences. Artificial eyes made of this substance have not the brilliancy nor the lifelike appearance of eyes made of glass or enamel, but they do not break, are easily adapted to the hollows and projections of the orbital cavity which has been modified, they are much cheaper. Patients may even, when granulations or adhesions are formed in the orbital cavity, cut the piece in such a manner that it will continue to well adapt itself to the orbital cavity. Thus it will be seen that these pieces in celluloid have certain advantages, but they have the great inconvenience of not being tolerated more than three or four months. At that time their chemical composition is probably modified by the liquids of the eyelids and of the orbital cavity, as well as by the tears which keep them constantly wet, so that the stump becomes red, granulating, painful, and gives rise to an abundant purulent secretion which compels the patient to abandon his artificial eye. Antiseptic washings may give some relief, but there remain the vegetations, which must be cauterized or excised. A cure is effected, but if the patient reapplies the artificial eye of celluloid he soon returns for the same treatment. The author does not know where these artificial eyes are manufactured, but believes that they come from Germany. They are composed of two distinct parts. The sclerotic is of celluloid and contains at its anterior part a cavity in which is implanted a piece similar to that of eyes of glass forming the iris and the cornea. When the sclerotic becomes altered, at the end of three or four months, it sometimes acquires an odor of an extraordinary fetidity. This odor recalls that of bromine, and it is no wonder, as celluloid is made of the mono-bromide of camphor. It is therefore possible that the bromine at a certain moment is set free, and gives rise to this odor. Under the influence of the heat the sclerotic becomes altered and softened, the central piece (the iris and the cornea) becomes somewhat movable in its cavity, and there results a cutting edge on which rub the posterior surfaces of the eyelids.

Starting from the idea that enuresis is due to a spasm of the fibres which preside the expulsion of the urine, Drs. Perret and Devic treated two cases of essential nocturnal incontinence of urine, the one aged 11 years and the other 12 years, to whom he administered from 2 to 3 grams of antipyrin per day. The first case, which was that of a boy, was cured in ten days after treatment, and the second, a girl, was cured in fourteen days. Even after the suppression of antipyrin the enuresis was not reproduced.

The *Archives de Pharmacie* points out the incompatibility of the following antiseptic substances: Corrosive sublimate and iodine, corrosive sublimate and soap, carbolic acid and iodine, carbolic acid and the permanganate of potash, iodine and soap, salicylic acid and the permanganate of potash, permanganate of potash and oil, soap and glycerine. A. B.

DOMESTIC CORRESPONDENCE.

Snake Bites—A Correction.

To the Editor:—In the issue of THE JOURNAL for September 28th I notice the following item, clipped from *The Southern Practitioner*, which is calculated to make a very false impression, at least in the minds of your northern readers, and to do our section of the State of Texas great injustice:

> Dr. L. G. Lincecum, of Lampasas, Texas, reports that he has treated more than one hundred cases of bites inflicted by poisonous reptiles, and that he has never seen a case result fatally that was treated by the hypodermic administration of permanganate of potassium and the administration of chloroform locally and by means of inhalation. He gives the permanganate in 1 and 2 grain doses.

I have now practiced medicine in Texas eight

years, part of the time in the northwest portion of the State known as the Panhandle, and the last five and one-half years in Lampasas. I have treated four cases of bites from poisonous reptiles. My practice and acquaintance extend over a region of from fifteen to twenty miles in either direction from town. Two of my cases were in the Panhandle, the other two in this vicinity. I am in position to know of the occurrence of snake bites in any part of the county. I have heard of but two or three cases besides my two cases.

Dr. Lincecum has practiced medicine here for fourteen or fifteen years. If he has treated one case a year here it is far more than anybody here knows anything about in the practice of all the other physicians here. If he has treated "*over one hundred cases*," it certainly must have occurred before he came here—probably whilst he practiced in the city of Austin.

We do not deny but that there are venomous reptiles and insects in the State of Texas, but they are not as numerous as many are led to suppose, and bites and stings from them are of rare occurrence. There are physicians in Texas who have never seen a case of rattlesnake bite in a practice of years. Others, in certain localities, might treat two or three cases a year. There is no question in regard to the success of the permanganate of potassium treatment in these cases.

Respectfully, J. D. CARHART, M.D.,
Member of Texas State Medical Association; of the American Medical Association; delegate to Ninth International Medical Congress.

Erysipelas Complicating Pregnancy.

To the Editor:—In a paper read before the Indiana State Medical Society, June 6, 1888, on "Erysipelas Complicating Pregnancy," the following conclusions were based on an analysis of thirty-seven cases:

1. The nearer to full term the attack of erysipelas, the less danger of death and greater certainty of abortion or premature delivery.

2. That nearly all cases complicated by puerperal peritonitis die, while those not thus complicated get well.

3. That there is less danger of death to the pregnant in the later months of pregnancy suffering with erysipelas than to the parturient to whom erysipelatous virus has been conveyed, producing puerperal peritonitis.

4. That the dangers to the pregnant or parturient are greatest in the active invasive stage of erysipelas; that puerperal septicæmia is not so likely to follow those cases of abortion or premature delivery occurring in the retrogressive stage of the erysipelatous inflammation, and that the dangers grow less as the inflammation subsides, provided the system is not left in a condition favorable to a return of the erysipelas.

5. That the virus from all varieties of erysipelas should be considered dangerous to the parturient, regarding the intensity of the inflammation and time of development of the virus as greater factors for evil than the variety and situation of the erysipelas.

Seeing that my conclusions were incorrectly stated in an important publication of wide circulation, and desiring to further investigate the subject, this communication is sent for publication.

Wishing to see if a larger collection of cases will further establish the above conclusions, any of the readers of THE JOURNAL having had cases of erysipelas complicating pregnancy, are respectfully requested to report them to the writer according to the outline given below. Only cases of erysipelas occurring in the pregnant from the time of conception to commencement of labor are wanted, and not those cases of septic infection occurring after delivery.

Form.—1. Period of pregnancy at which erysipelas occurred. 2. Variety and situation of erysipelas. 3. Time of delivery as to stage of erysipelas and period of pregnancy. 4. Result as to death or recovery of mother. 6. Did mother have puerperal peritonitis or septicæmia?

To any one reporting cases due credit will be given, and a reprint of the article on the above subject will be sent to them if requested. Please send reports to, Yours respectfully,

R. R. KIME, M.D.

Petersburg, Ind., Oct. 12, 1889.

Etiology of Tetanus.

To the Editor:—Recent articles and communications in THE JOURNAL on the contagion or microbe of tetanus, and its relation to the offal of animals, have added interest, in view of the occurrence of a case of tetanus which, during the week past, has in this city reached a fatal termination. The victim was a woman of advanced age, but of notably vigorous health. About two weeks previous to her death she had occasion to step into a poultry coop or enclosure, when a nail, concealed by dirt and offal of the poultry, penetrated the plantar surface of the instep. In a few days stiffness of the cervical tissues appeared, with the result stated. As many medical men in a lifetime of active practice fail to meet a case of this kind, so rare is the disease outside of hospitals, albeit rusty nail wounds of the feet are sufficiently frequent, the special circumstances of the etiology of this case are significant, as verifying the recent view of a microbe origin. The writer was not medically in the case, but is accurately informed of the above facts, and would regard their burial with the victim with disfavor.

Yours respectfully,

H. C. MARKHAM, M.D.

Independence, Ia., October 11, 1889.

NECROLOGY.

Dr. Charles W. Haddock.

DR. CHAS. W. HADDOCK, a well-known physician of Beverly, died Oct. 10, 1889. He was born at Hanover, N. H., sixty-seven years ago. His father was a clergyman and a professor in Dartmouth College, in which university the future physician was graduated. In 1847 he went to Beverly, where he won a high reputation. He was a member of the Massachusetts and Essex South District Medical Societies. He was surgeon of the 8th Regiment Massachusetts Infantry during its nine month's campaign in the Carolinas, and was surgeon of the 2d Corps of Cadets for several years. He had been medical examiner for the Beverly district since the office was created, and was chairman of the Board of United States Pensioner Examiners, having been recently appointed. His wife and one son, Dr. Charles W. Haddock, survive him.

MISCELLANY.

EPIDEMIC DISEASE IN BELFAST.—At a meeting of the Belfast Dispensary Committee on October 7, the reports from the various medical officers showed the existence of a large amount of typhoid and typhus fevers in the city. The outbreak of typhoid was attributed to the heat and drought of the early summer, succeeded by the wet weather of August. There is reason for thinking that a conjunction of circumstances of this kind does tend to have this effect. Happily, the epidemic is not of a severe type, and the mortality has been very moderate. Dr. Woodhouse, Local Government Board Inspector, stated his opinion that 10 per cent. of the death-rate was due to diarrhœa in infants, of which the causes were mainly two—wrong feeding and imperfect sanitation.—*British Med. Jour.*, Oct. 12, 1889.

LETTERS RECEIVED.

Dr. John A. Larrabee, Louisville, Ky.; Dr. A. B. Newkirk, Falls City, Neb.; Thomas F. Goode, Buffalo Lithia Springs, Va.; F. W. Koch, New York; Georgetown Medical College, Washington; Eli Lilly & Co., Indianapolis, Ind.; Upjohn Pill and Granule Co., Kalamazoo, Mich.; W. H. Moore, Brockport, N. Y.; Dr. George O. Mead, London, Eng.; Doliber, Goodale & Co., Boston; The American News Co., New York; Northwestern Ohio Medical College, Toledo, O.; Chicago Polyclinic, Chicago; Dr. J. Wright, Brooklyn, N. Y.; Dr. Robert Tilley, Chicago; Dr. J. H. Bryan, Washington; Dr. C. S. Curry, Newark, N. Y.; Dr. James Tyson, Philadelphia; Dr. Hermann Goldenberg, New York; Gladstone Lamp Co., New York; Lambert Pharmacal Co., St. Louis, Mo.; Lea Bros. & Co., Philadelphia; S. H. Parvin's Sons, Cincinnati, O.; I. Haldenstein, New York; Dr. John V. Shoemaker, Philadelphia; Dr. W. H. Atkinson, New York; Oneita Springs Co., Utica, N. Y.; Dr. S. F. Cook, New York; Parmenter Printing Co., Lima, O.; John Wanamaker, Philadelphia; Dr. J. A. Webb, Voluntown, Conn.; Dr. R. Harvey Reed, Mansfield, O.; Malted Milk Co., Racine, Wis.; The Marlin Fire Arms Co., New Haven, Conn.; Dr. A. Vander-Veer, Albany, N. Y.; Battle & Co., St. Louis, Mo.; Lovell Washer Co., Erie, Pa.; George F. Lasher, Philadelphia; Galvano-Faradic Manufacturing Co., New York; Dr. Benj. Lee, Philadelphia; Henry Schwindt, New York; Dr. George W. Ryan, Cincinnati, O.; Lehn & Fink, New York; Anthony S. Werielf, Chicago; G. P. Putnam & Co., New York; Dr. E. H. M. Sell, Allentown, Pa.; Dr. C. C. Hunt, Dixon, Ill.; Dr. Augustin A. Goelet, New York; Dr. Joseph H. Hoffman, St. Mary's, Pa.; Dr. W. L. Linn, Bowen, Ill.; Dr. George W. Stoner, Detroit, Mich.; Dr. H. L. Getz, Marshalltown, Ia.; Dr. M. Blumenthal, New York; Dr. Robert T. Morris, Lutz & Movius, New York; Dr. F. B. Davidson, Fleetville, Pa.; Dr. Chaillé, New Orleans, La.; Dios Chemical Co., St. Louis, Mo.; Wm. R. Warner & Co., Philadelphia; The Zymoticine Chemical Co., Springfield, O.; Dr. W. Freudenthal, New York; Dr. Jonathan Wright, Brooklyn, N. Y.; W. P. Cleary, New York; Dr. A. R. Baker, Cleveland, O.; Dr. A. S. Mygatt, Rolfe, Ia.; Dr. Samuel Hart, Marietta, O.; Dr. W. N. Yates, Fayetteville, Ark.; Dr. Thomas F. Rumbold, St. Louis, Mo.; Dr. Irving D. Wiltrout, Hudson, Wis.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from October 12, 1889, to October 18, 1889.

Capt. Louis Brechemin, Asst. Surgeon U. S. Army, relieved from duty at Ft. Laramie, Wyo. Ter., and ordered to Ft. Apache, Ariz. Ter. Par. 2, S. O. 241, A. G. O., October 16, 1889.

First Lieut. Alfred E. Bradley, Asst. Surgeon U. S. Army, relieved from duty at David's Island, New York Harbor, and ordered to Ft. Omaha, Neb. Par. 2, S. O. 214, A. G. O., October 16, 1889.

First Lieut. H. S. T. Harris, Asst. Surgeon U. S. Army, relieved from duty at San Antonio, Tex., and ordered to Ft. Keogh, Mont. Par. 2, S. O. 241, A. G. O., October 16, 1889.

Capt. Edward Everts, Asst. Surgeon U. S. Army, relieved from duty at Ft. Apache, Ariz., and ordered to David's Island, New York Harbor. Par. 2, S. O. 241, A. G. O., October 16, 1889.

Capt. W. R. Steinmetz, Asst. Surgeon U. S. Army, ordered for examination for promotion. Par. 3, S. O. 236, A. G. O., October 10, 1889.

Capt. Louis Brechemin, Asst. Surgeon U. S. Army, granted leave of absence for one month. Par. 1, S. O. 98, Hdqrs. Dept. of the Platte, October 12, 1889.

Capt. George W. Adair, Asst. Surgeon U. S. Army, leave of absence extended for fifteen days. Par. 15, S. O. 238, A. G. O., October 12, 1889.

Capt. Valery Havard, Asst. Surgeon U. S. Army, leave of absence extended one month. Par. 3, S. O. 240, A. G. O., October 15, 1889.

Major L. Y. Loring, Surgeon U. S. Army, sick leave of absence extended two months on surgeon's certificate of disability. Par. 16, S. O. 241, A. G. O., October 16, 1889.

Lieut.-Col. Anthony Heger, Surgeon U. S. Army, relieved from duty in Div. of the Atlantic, and ordered for duty as attending surgeon, Washington, D. C. Par. 2, S. O. 241, A. G. O., October 16, 1889.

Major Robert M. O'Reilly, Surgeon U. S. Army, granted leave of absence for six months, with permission to leave the United States. Par. 3, S. O. 241, A. G. O., October 16, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending October 19, 1889.

Surgeon D. W. Bertolette, detached from the "Franklin," and ordered to duty at Naval Hospital, Philadelphia.

P. A. Surgeon N. H. Rush, detached from Naval Hospital, Philadelphia, and ordered to the "Saratoga."

P. A. Surgeon C. T. Hibbett, ordered to the "Franklin."